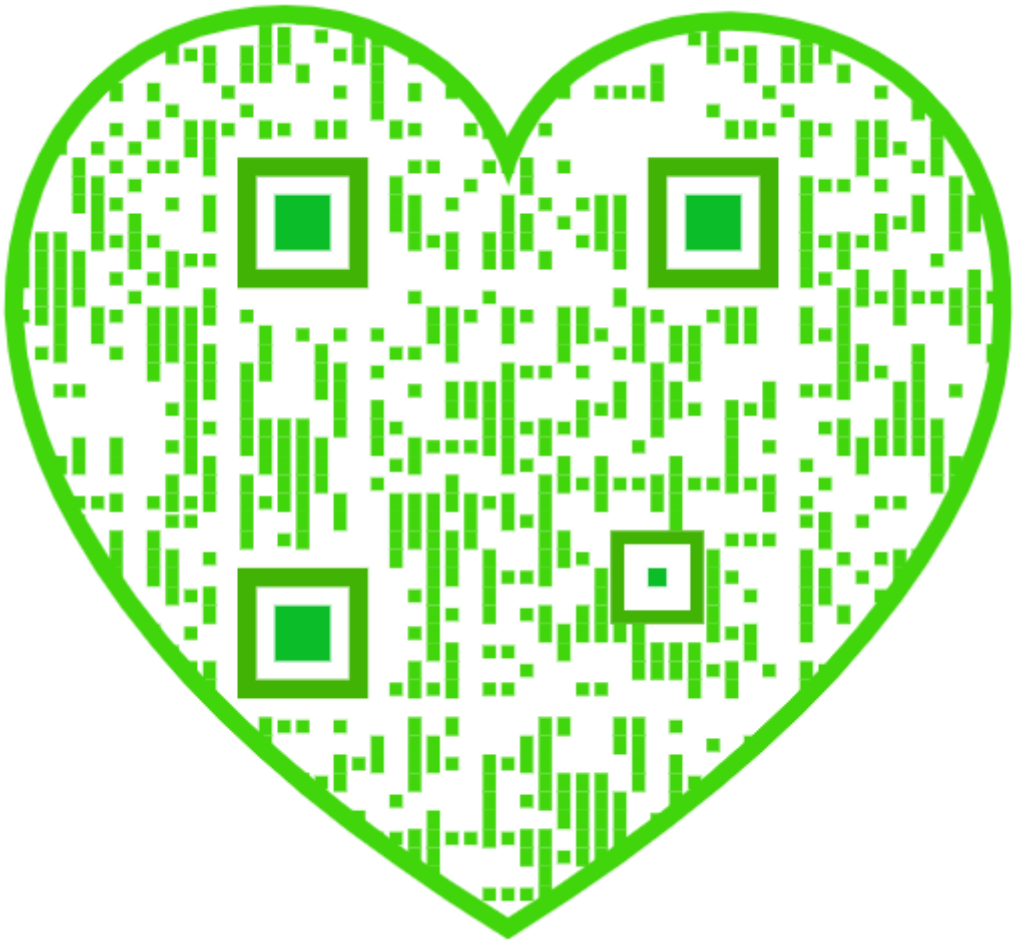

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ENCYCLOPEDIA

OF

FOODS

AND

BEVERAGES

Libraries and educational institutions have given this work so cordial a reception, taking its *contents* as their guide instead of its primary title, that I have bound a few hundred copies with the originally subordinate name of *The Encyclopedia of Foods and Beverages* glorified to a main title on its covers.

I feel that this new title is appropriate, for it describes more than nine-tenths of the contents.

THE GROCER'S ENCYCLOPEDIA

A COMPENDIUM OF USEFUL INFORMATION CONCERNING FOODS OF ALL KINDS. HOW THEY ARE RAISED, PREPARED AND MARKETED. HOW TO CARE FOR THEM IN THE STORE AND HOME. HOW BEST TO USE AND ENJOY THEM—AND OTHER VALUABLE INFORMATION FOR

GROCERS AND GENERAL STOREKEEPERS

COMPILED BY

ARTEMAS WARD

FORMERLY EDITOR OF

"THE NATIONAL GROCER"

PRICE, TEN DOLLARS

1153

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NEW YORK

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Entered, Stationers' Hall, 1911

TO THE

GROCERS

AND

GENERAL STOREKEEPERS

OF THE UNITED STATES

THIS VOLUME IS DEDICATED,
BY ONE WHO HAS STUDIED THEIR BEST INTERESTS
FOR MANY YEARS,
IN THE HOPE THAT
THEY MAY FIND IT AN AID
TO BETTER DEALING,
WIDER KNOWLEDGE,
GREATER SALES
AND LARGER PROFITS.

UNIV. OF CAL. SOUTHERN BRANCH

Library

PREFACE

"If you can fill the unforgiving minute
With sixty seconds' worth of distance run."
—*Kipling.*

This book is the product of many such minutes stolen out of the hours of a very busy life, at irregular intervals, during a period of about thirty years.

In 1882, realizing that the Grocers and General Storekeepers of the United States greatly needed a book giving information on many points relating to their business, I attempted to supply that want, and issued *The Grocer's Handbook*. Time and money, as well as personal experience and proper co-operation on the part of others, were denied me, and it is with a feeling of shame that I refer to that crude but well intended effort. Perhaps the present volume is its best apology.

I have never abandoned the hope of issuing a better book—have steadily collected scraps of information—noted points of value—laid plans and considered costs. In the past two years application for information has been made to producers and manufacturers in all parts of the world. So carefully detailed were the communications that return postage was provided in stamps of the countries of the recipients, even those of China and Japan, yet in numerous cases several letters had to be written before any attention was secured, and, too frequently, the replies were indifferent—perhaps it was found difficult of belief that anyone intended to publish a creditable book for Grocers!

Probably the indifferent ones would now gladly give pictures, details and other information, but I was obliged to fulfill my purpose without their aid—to obtain, by personal search and often in odd ways, photographs and other illustrations, some of them rare and difficult of access, and to develop many of the most interesting features from crude commercial reports.

My thanks, and those of the readers of this book are, on the other hand, due to the many leading houses of the world who kindly aided in making it what it is. Personally, I must acknowledge the industry and accuracy of Mr. Charles Martyn, formerly Editor of *The Caterer*, without whose efficient aid the work would have been too heavy for me.

In so wide an undertaking errors and omissions will no doubt be discovered—I shall try to correct them in future editions. In several instances, prominent houses sent in absolutely contradictory statements on important subjects, while high authorities disagreed with the Department of Agriculture. In one case, a great company, unquestionably the greatest of its kind in the world, ridiculed our submitted text—and a month later its own chief chemist endorsed it as complete and accurate.

The color plates, by The American Colortype Company, tell their own story of modern color printing and a well executed order.

* * * * * * * *

My connection with the Grocery Trade has continued unbroken during the thirty-years in which this Encyclopedia has been taking form—for twenty years in editing *The National Grocer* (absorbed by the *American Grocer* in 1894)—from 1884 to 1909 as General Manager for Sapolio, and still glad to aid all its interests—and now, in presenting the completed work, I find pleasure in the thought that I am still serving my friends in the Trade.

ARTEMAS WARD.

INTRODUCTION

This Encyclopedia attempts to give some information on every article of food and drink, and also touches on many other interesting items handled by General Storekeepers. The first aim is so extensive as to approach the impossible—and to describe all the varied goods of a general stock would be impracticable—but its pages treat on more than twelve hundred subjects. The first item in the text, *Abalone*, tells of a shellfish of the Pacific Coast now growing in favor—the last line lists *Zwetschenwasser*, a German liqueur. *Gunpowder*, *Nails*, *Rope*, *Shot* and other articles are given space, and a few points of legal or commercial import are briefly considered—as, *Trade-marks*, *Partnerships*, *Good-will*, *Power of Attorney*, and, at greater length, *Window Dressing*, and the origin of the trade, under *Grocer*.

The number of new fruits which during the last few years have found their way into our markets; the large, and constantly increasing, variety of other foods and food delicacies, both domestic and imported, now offered for popular consumption, and the noteworthy growth of public interest in, and knowledge of, food values, make it essential that the modern grocer keep himself thoroughly informed and up-to-date. It is this service which the Encyclopedia is designed to render. Where reference is made to seasons, the character of the general demand, etc., it must be borne in mind that the book is published in the northeastern part of the United States and that therefore it may not in such particulars accurately report conditions on the Pacific Coast, the Gulf of Mexico or abroad.

The Grocer who does not think better of his calling in life as he glances over this book, is not worthy of it. Forest and Ocean, Land and Sea, the Animal and the Vegetable Kingdoms—the earth and its fullness—are all tributary to his trade. *Vinegar* may be a trifle, but he shall see train-loads of tank-cars carrying it to factories. Under *Wines* he will find twenty pages of helpful information, including a catalog of types and varieties embracing nine hundred and sixty-eight items and more complete than any hitherto published.

There are eighty full-page plates in color, and four hundred and forty-nine illustrations in all. Twelve pages on *Cheese* contain descriptions of forty-eight varieties. Twenty on *Coffee* include a color-page showing twelve varieties of leading beans, so natural that they might be mistaken for real samples. Seven pages on *Oysters* are illustrated by a color-page and three full-page, and several smaller, half-tone plates. One

shows the oyster in its various sizes, from the "seed" to a seven-year-old "giant," while others furnish views of planting and gathering in the United States and France. *Mineral Waters* gives thirty-nine different Springs, their locations and their specific qualities. *Tea*, richly illustrated, fills sixteen and a half pages, and *Rice* is shown in cultivation and gathering in many lands.

If the dealer wishes to add fresh meats to his business he will find assistance in the large space accorded to *Beef*, *Mutton*, *Veal* and *Pork*, showing by colored plates and plain diagrams all the principal cuts. And his troubles are met in several directions, from *Awnings* to the *Ants* and *Cockroaches* which annoy him.

Many extraordinary subjects are touched upon. *Kangaroo Tails*, as a new meat supply, is immediately followed by *Kanten*, a Japanese isinglass, and *Kosher* treats of Jewish food restrictions important to those who have Hebrew customers. *Bacteria*, *Microbes* and *Yeast* tell in plain terms the latest facts of modern scientific discovery in relation to foods, their flavor, digestion, development and decay, while *Food Values* devotes six and a half pages to that important topic. *Mushrooms*, six pages and illustrations of fourteen varieties, is covered thoroughly.

Every dealer should be interested in the liberal articles on *Labels*, *Markets*, *Restaurants* and *Guilds*—in the fund of information given under the heads of *Cigars*, *Chewing Gum* and *Sponges*—and should be glad to learn more about *Cold Storage*, *Adulteration*, *Cookery*, *Preservation* and such subjects as *Fermentation* and *Distillation*, and how to defend himself against *Mold* and *Maggots*.

The APPENDIX, of thirty-nine pages, contains a list of five hundred and nineteen words used to describe foods, drinks, etc., with their equivalents in French, German, Italian and Swedish, which should prove valuable to dealers born in those countries—who, even when well acquainted with English, find many a puzzling question put to them over the counter—and should greatly aid dealers born in English-speaking lands whose trade lies with foreign-born customers. This dictionary is carefully repeated in each language, as "French-English," "German-English," "Italian-English" and "Swedish-English." As the majority do not use more than four hundred words from the cradle to the grave, these vocabularies of over five hundred words in one line of business must be very complete.

The Appendix contains, next, a list of two hundred and fifty-five of the most common *Culinary Terms*, which explains how the well known staples sold by the Grocer at such low prices masquerade under French names to justify an enormous advance in price when they appear on Menus or Bills of Fare.

Valuable tables of *Weights and Measures* are also included.

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(2) Neufchatel
(3) Limburger

(1) Pineapple
(4) Emmenthaler ("Swiss")

CHEESE

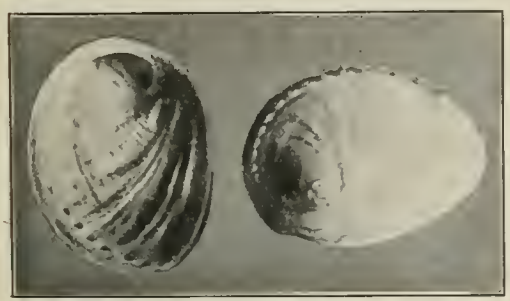
THE GROCER'S ENCYCLOPEDIA

FOR GROCERS AND GENERAL STOREKEEPERS

This Encyclopedia covers alt articles ordinarily handled by Fancy and General Grocers, and, in addition, a wide range of information on other subjects more or less closely allied to their trade, or to that of the General Storekeeper. The text has been made as concise as possible, while retaining the most interesting points on the cultivation, manufacturing, marketing, etc., of the principal staples. As it is designed chiefly for trade and public reference, purely technical terms—chemical, botanical, etc.—have been avoided, except where they are needed to evade the confusion which would result from the employment of contradictory popular titles or terms.

The APPENDIX, *commencing on page 710, contains a dictionary of all common food names, in five languages, an explanatory list of the principal French Culinary and Bill-of-Fare words and phrases in general use, and Tables of Weights and Measures.*

ABALONE: an immense uni-valve shellfish common on the Pacific Coast. It somewhat resembles the eastern scallop but has only one shell. Its flesh, which corresponds in general character to that of the oyster, was formerly eaten only by Chinese and Japanese fishermen, but white residents of the Coast States are beginning to appreciate and relish it. It is sold fresh, dried and canned; in the two latter cases cut into pieces of suitable size. The pearly shell is beautiful when polished and is much used in the manufacture of souvenirs, ornaments, etc. In Japan, the abalone product is an important item in the fisheries industry.



Abalone Shells

ABATTOIR (from the French *Abattre*, "to knock down"): a public slaughterhouse. The most notable American abattoirs are those in Chicago, Kansas City, So. Omaha and New York. In the larger establishments, cattle are killed, skinned, cut up and hung in the cooling room in thirty-nine minutes—each carcass being in that short time handled by twenty men. Hogs are killed at the rate of 550 an hour, each being handled by twenty-five men in thirty-two minutes. Sheep are killed at the rate of 620 an hour, the slaughtering and dressing occupying about thirty-four minutes.

The wholesale Slaughtering and Meat Packing industries of the country

Drying Abalone Meat, California

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Stock-yards, Kansas City, Mo.

employ a capital of more than $250,000,000 and about 75,000 persons. The value of the output is in the neighborhood of a billion dollars, of which approximately 85% is in the form of edible products—fresh, cured and canned meats, lard, etc.—and 15% in various industrial items.

ABSINTHE: a liquor extensively drunk on the Continent, especially in France and Switzerland, and now largely exported to the United States. That of good quality consists of about 50% alcohol, distilled with absinthium or wormwood and other herbs, such as balm, fennel, anise and hyssop, or their essential oils. To prepare it for drinking, the liquor is mixed with water, added drop by drop and permitted to fall from some height.

Absinthe drunkenness, or even continuous tippling, produces utter derangement of the digestive system, ending in paralysis.

The herb *Absinthium* is employed medicinally for its tonic properties.

ACARUS, or Mite: a species of insects including many varieties, among which the Cheese Mite, the Flour Mite and the Sugar Mite are common to the trade. The Cheese Mite is one of the most minute of these pests (see article on CHEESE). The Flour Mite is covered with long hairs, and is capable of a good deal of motion. The Sugar Mite is found in great quantities in all "raw" or soft sugars, but refined sugar is free from it. Brokers handling samples of raw sugar are often troubled by acari, as they bury themselves under the skin and cause an irritation similar to the itch. The surface of jelly and preserves that have been kept overlong is frequently covered with mites, and there is also a variety which lives on vegetables and makes itself especially obnoxious in the Spring.

Absinthium

ACCOUNTS. Family accounts are generally kept by grocers in pass-books. Care taken before accounts are opened, and while they are running, will often aid materially in their settlement. In factory districts, it is not unusual to obtain written agreements that they shall be settled regularly on pay-days. Persons desiring to open accounts are sometimes willing to give security to a small amount, or to name references. The latter offer should always be accepted, as many who would otherwise not mind defrauding the grocer will pay rather than have the case reported to those whom they gave as references. To add each account up every month or oftener and present a bill, is very important. To write plainly in the pass-book avoids misunderstandings. A

duplicate should invariably be kept in the store.

In suit for an account, the grocer should be prepared to furnish a fully itemized bill. If a short note can first be obtained it makes the suit simpler even if it is not paid, as it generally precludes all question as to the items of the bill.

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Union Stock-yards, Chicago

ACETIC ACID: which is sometimes employed by confectioners in sugar boiling, to stiffen cake icing, etc., and, in dilute form, is the principal characteristic of vinegar, is, commercially, a pungent, colorless liquid, obtained chiefly either by dry distillation of wood or by the oxidation of alcohol by means of ferments.

Pyroligneous Acid, the crude product obtained by wood distillation, is the preservative principle developed in the smoking of hams, etc.

ACETIC ETHER: is obtained by treatment of acetic and sulphuric acids and alcohol. It is extensively employed in the manufacture of many imitation fruit extracts, particularly cherry, currant, peach, pear, raspberry and strawberry.

ACIDULATED: rendered acid or sour. "Acidulated drops" are an old-fashioned candy similar to the modern lemon and lime drops.

ACORN: the seed of the oak. Acorns are important now only as an occasional food for cattle, but in the early days they served as one of the principal articles of human diet in temperate zones, and even in modern times, during periods of scarcity, they have been found an acceptable food by European peasants. They are said to be occasionally poisonous during the autumn months.

ADULTERATION. The grocer is never an advocate of adulteration. Some manufacturers adulterate for the sake of profit, but even then they are generally driven to it unwillingly by the demand for cheap goods. A fair price is necessary to secure pure goods.

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Union Stock-yards, Chicago

The cry of adulteration goes to great extremes; the desire to appear critical and to be considered a good judge gives rise to much of it, and no sensible dealer will encourage it. Indeed, an honest and intelligent investigation nearly always proves that at least half the accusations are unfounded.

It should also be remembered that there are many food items which are not desirable when absolutely pure—mustard is "adulterated" by nearly every large manufacturer by the addition of flour, because it is too pungent in its natural

state; such "adulteration" is not only harmless but may be defended as perfectly proper and justifiable.

Again, many of the statements with regard to adulteration are rendered alarming by the misuse of chemical terms. To tell the average consumer that a table syrup is made of "glucose" is to state a mystery; to say that it is made of "starch treated with hydrochloric or muriatic acid" would cause alarm—yet the final result is a thoroughly wholesome product whose principal constituents are "sugars" identical with, or closely allied to, those into which the sucrose of flowers is converted by bees in the manufacture of honey, and all starchy food is converted by the human stomach in the ordinary process of digestion.

If, as modern medicine asserts, a state of dread affords a direct opening to disease, the alarmists are as dangerous as the adulterists, and it would seem better to live in ignorance than to be frightened out of the world by too critical inquiries as to what we eat or drink.

Much adulteration exists which is deleterious to health, but, unfortunately, it is generally where it is least expected and rarely detected. Laws of the most stringent character are enforced in Great Britain, and fall very oppressively on retail grocers, many of whom purchase goods the purity of which they are unable to determine.

AERATED BREAD: is that leavened by the addition of carbon-dioxide. See general article on BREAD.

AERATED WATER: is, correctly speaking, distilled water to which purified filtered air is added to improve its flavor. The term is, however, frequently applied to *Carbonated Waters* (which see).

AGUARDIENTE: a brandy made in Spain, Portugal and several Spanish-American countries.

ALBUMEN: a thick, viscous substance found in both vegetable and animal matter. It is the most valuable component of meat, flour and many other foods (see FOOD VALUES). The best natural example is the white of an egg, which is nearly pure albumen. Chemically pure albumin is almost colorless, odorless and tasteless and is insoluble in pure water. In France, large quantities are prepared at the abattoirs by drying the blood of the cattle killed. It is used to clarify wine, syrups and other liquids, in photography, the textile industries, etc. In cases of poisoning by mineral acids the white of an egg is a valuable antidote.

ALCOHOL, Ethyl Alcohol (also called *Grain Alcohol, Root Alcohol, Spirits of Wine*, etc., according to the source): occurs as the result of the fermentation—*i. e.*, the effect of the growth of yeast cells, either wild or cultivated (see YEAST)—of liquid containing a moderate amount of any one of several forms of "sugar." The sugary element is the result of the conversion of starch, either by natural growth in grapes, sugar beets, etc., or by the action of malt diastase, etc., on the starch of grains (see WHISKY), potatoes, etc. The alcohol is extracted from the fermented liquid by the process of *Distillation* (which see).

Pure alcohol is transparent and colorless, agreeable in odor, of strong and pungent taste and highly volatile and inflammable, burning with a pale blue or smokeless

flame. If thoroughly refined, the product is identical—both by chemical analysis and in appearance, flavor, etc.—no matter what the source of the original starch.

Brandy and Whisky generally contain about one-half alcohol in volume. "Proof spirit" contains approximately half in weight but somewhat more by volume.

In addition to its use in spirituous liquors, alcohol is employed in an almost infinite variety of ways—in the arts, in the electrical world, in the manufacture of artificial silk, leather, etc., by perfumers, chemists, extract makers, anatomists, naturalists, etc. As *Denatured Alcohol* (see following), its scope has been greatly widened within the last few years.

Denatured Alcohol: is merely ordinary alcohol with special ingredients added in order to make it impossible to drink it, the purpose being to cheapen it for industrial and commercial purposes by avoiding the heavy government tax on alcohol which can be consumed in beverages. The additional ingredients make it injurious to health and objectionable in both taste and odor, but do not detract from its commercial efficiency. Furthermore, when once denatured, there is little likelihood of it being improperly used, as it is both expensive and difficult to extract the foreign ingredients.

There are two forms of alcohol so treated—one *completely* denatured and the other *specially* denatured—the latter for uses for which the former would not be suitable.

The most generally approved formula for *completely* denatured alcohol adds ten gallons of wood (methyl) alcohol and one-half gallon of petroleum benzine to each hundred gallons of ordinary (ethyl) alcohol.

Among the many possible additions for *specially* denatured alcohol are camphor, benzol, castor-oil and soda lye, sulphuric ether, etc.

Alcohol for industrial purposes is in Germany made chiefly from potatoes, in France from beets, and in this country from grains, molasses, etc. Its manufacture adds appreciably to the wealth of the nation by turning to account damaged and spoiled grains, vegetables and fruits—all of which can be converted into alcohol thoroughly serviceable for industrial purposes.

The commercial uses of alcohol, when obtainable at a low price, are almost innumerable. In the household it serves as a clean, cheap and serviceable substitute for gas or electricity, for both illumination and cooking. Its possibilities promise to be illimitable, for in France a new process has been discovered by which it may be produced by chemical synthesis, and it is predicted that the cost of such production can be reduced to less than ten cents a gallon.

ALE. This was apparently the current name in England for all malt liquor before the introduction of hops, about 1524. Later, the word "beer" was similarly employed.

The principal difference in the brewing of modern Ale and Lager Beer is found in the process of fermentation. Ale is a "high" or "top" fermentation at about 58° Fahr.; Lager, a "low" or "bottom" fermentation at about 40° Fahr. Each requires a special yeast. The percentage of alcohol varies from four to six per cent in ale against from three to five in lager beer, the difference being due to the greater quantity of malt used in the former.

In America, ale is brewed chiefly from malted barley, grain, cerealin (a compound resembling diastase), grape sugar and hops. All varieties may be grouped under two heads: "Present Use" or "Cream" or "Light Draught" ale, intended for immediate

consumption, and "Stock Ale," containing more alcohol and extract, intended to be kept for months or years, either bottled or in casks.

Light Draught ales are distinctly an American product, the tendency here being toward clear, light types. In the endeavor to attain this result, some brewers have sacrificed much in flavor, but others have been successful in producing a true "Ale" with a lager beer finish.

English and Scotch ales enjoy a high reputation. The latter are distinguished by the small quantity of hops employed and their marked vinous flavor. India Pale Ale derives its name from a variety originally brewed for the East Indies market, which was especially heavily hopped to better withstand the hot climate. "Bitter Ale" is similarly made by using a large proportion of hops.

"*Half & Half*" is a mixture of half ale and half porter (see STOUT).

"*Musty*," in New England, signifies a mixture of ale and lager beer.

When properly drawn, ale should be perfectly clear, contain sufficient carbon-dioxide (carbonic acid gas) to produce a foam or collar on top and a slight champagne effervescence, and have the aromatic smell of hops. It should never be exposed to the air in an open vessel, because of its tendency to ferment and sour.

When brewed by the newest methods, ale does not become turbid at low temperatures, and when bottled and pasteurized can be kept indefinitely without sediment, remaining clear even when packed on ice.

Bottled ale should be kept on its side in a cool place—the temperature preferably not below 44° nor above 50° Fahr.

ALEBERRY: a beverage made by boiling ale with spice, sugar and bread-sops, the last commonly toasted. A domestic remedy for a cold.

ALEWIFE: an American species of herring, taken along the coast from the Gulf of St. Lawrence to Chesapeake Bay. It is largely exported after salting to the West Indies.

Alewife

ALKALINE WATERS. See MINERAL WATERS.

ALKANET: the dark red root of a deciduous plant, of blackish appearance externally but inside showing a blue-red meat, surrounding a whitish core. It readily gives up its red color on infusion in spirits, oils, etc., but not in water, which derives from it only a dirty brown color. Alkanet is used by perfumers, etc., and it is also employed occasionally to color cheese, to improve the appearance of poor grades of port and similar wines, to give the appearance of age to port wine corks, etc.

ALLIGATOR APPLE: a large, smooth, heart-shaped tropical and sub-tropical fruit. The flesh is sweet-scented and agreeable in flavor, but so strongly narcotic that it has never attained general popular use.

ALLIGATOR PEAR, or **Avocado:** a tropical fruit, native to Mexico and northern South America but now widely grown also in the West Indies and in Florida and other Southern States.

The tree is a fine spreading evergreen with large leaves of oval shape and bright green color, a free producer under good circumstances. The fruit, big and heavy, weigh-

ALLIGATOR PEARS

ing up to four pounds, consists of a single large rugged seed wrapped in a membranous cover, inside a firm, buttery flesh of bright greenish-yellow color, containing from ten to twenty per cent of greenish oil. The outer skin is tough and leathery, varying in color, some being bright green, others yellow, brownish green, dark purple or red, etc. The most common shapes are the oval, pear-shaped and round or bell. The large green fruits are considered the best.

Alligator Pears

Alligator Pears are now obtainable nearly all the year round—the first supplies from Colombo and other parts of South America reach the Eastern markets in January or thereabouts, the Cuban fruits following in April and continuing through the summer to October, those from Jamaica continuing to November and from Trinidad and Granada to January. The Florida supply is heaviest during the months of July and August.

Alligator Pears have advanced considerably in favor during recent years. They deserve still greater popularity, as the large percentage of easily digested vegetable oil or fat makes their flesh exceptionally nutritious.

The fruit is served in halves or sections, as cantaloupes, to be eaten with salt, and pepper and vinegar if desired, or with a little lime or lemon juice and sugar—or the flesh is cut in slices or cubes, similarly dressed or served with French salad dressing. If the flesh is cut into little grooves with a sharp knife, the dressing will be more easily absorbed.

The flesh of the ripe alligator pear is of about the consistence of well-made butter. The fruit is just right when the flesh will yield gently to a slight pressure of the fingers. The skin is then easily peeled off the pulp.

ALLSPICE, also called *Pimento* and *Jamaica Pepper*: is the dried fruit of a small West Indian tree called the Pimento. It is about the size of a pepper, or small pea, and is gathered when fully grown, but not ripened, and dried in the sun. It is called Allspice from its supposed resemblance in flavor to a mixture of cinnamon, nutmeg and cloves. It is often used in place of cinnamon.

Allspice

ALMERIA GRAPES. See article on GRAPES.

ALMONDS: rated commercially among the most valuable nuts, are the kernels of the fruit of a tree, which is said to be a native of the East and of Africa but which long ago became fully naturalized throughout the whole South of Europe and is now grown with equal facility in California. It resembles the peach tree both in size and appearance. The fruit ripens generally in July and August, and the new nut crop is ready for shipment in October.

Almonds are divided into "Sweet" and "Bitter," only the former being sold as an edible nut. *Sweet Almonds* are subdivided into several types, varying considerably in size and shape. In the shell there are three principal grades—Paper Shell, Soft

Shell and Hard Shell—both imported and from California.

Of the imported Shelled Almonds, the best known are the Jordan and Valencia, chiefly from Malaga, Spain. Jordan Almonds are long and plump and pointed at one end—the type shown on the *Color Page* facing page 414. They are highly esteemed both as a dessert item and for confectionery purposes. Valencias are about three-eighths of an inch long, round at one end and obtusely pointed at the other.

Bitter Almonds, imported chiefly from Mogadore, Morocco, are used only for their oils, for flavoring, etc. See ALMOND OIL, following.

Gathering Almonds, California

Green Almonds are young sweet almonds. They are often preserved in sugar.

Burnt Almonds are roasted sweet almonds. They are done up with sugar when destined for use as confectionery, being then known also as "Pralines" and "Sugar Almonds." Roasted plain, they are employed for coloring and flavoring liquors.

Blanched Almonds are sweet almonds with the skins removed.

Almonds are also sold *Ground* (dried and crushed), *Salted*, etc.

ALMOND EXTRACT: is a solution of Oil of Bitter Almonds, about 1%, in alcohol of fair strength.

ALMOND OIL: is obtained by expression from the ground kernels or seeds of the sweet or bitter almond, apricot or peach. It is largely employed in perfumery. The best qualities are light yellow or white in color, almost entirely free from odor and possessing only a mild, nutty flavor. **Oil of Bitter Almonds** is an entirely different product, which is not obtainable by the cold, or only slightly warm, expression employed for Almond Oil—it is a volatile oil extracted by distillation from the crushed kernels of bitter almonds, apricots or peaches, after the expression of Almond Oil. In concentrated form, Oil of Bitter Almonds is poisonous because of the large quantity of hydrocyanic or prussic acid it contains, but in diluted form, as in Almond Extract, it is a popular flavoring in confectionery, cooking, etc.

ALMOND MEAL, ALMOND PASTE: are made from ground sweet almonds, after the extraction of Almond Oil. They are much used in pastry and confectionery—in the manufacture of almond macaroons and other sweet pastries, in fancy cake and pie filling, etc.

ALMOND MILK: is an emulsion of almond oil and water. It has an opaque, milky appearance.

ALMOND SYRUP: if of high quality, is an emulsion of sweet and bitter almonds in barley syrup (then generally known as *Orgeat Syrup*), or in a syrup of Orange Flower

Water and sugar. Ten parts of sweet almonds are generally employed to three parts of bitter almonds.

ALUM: a salt composed of the combined sulphates of Potassium and Aluminum. It crystallizes in cubes and eight-sided forms, and has a sweetish astringent taste. It is sometimes employed by bakers to whiten their bread. That used in Baking Powders is Burnt Alum—a white spongy substance produced by heating alum until it melts and then driving off all the moisture by additional roasting. Its employment in baking powders has been much abused by parties interested in other preparations, but if completely neutralized it is harmless. The taste test is a poor one, as no raw baking powder has a pleasant flavor, and an overdose of cream of tartar would be about as bad as one of burnt alum!

AMERICAN WINES. American wine makers have duplicated nearly all the European Wines in popular demand. In some the results are disappointing to the connoisseur because probably of differences in climate and soil, as well as in handling, but in others a high measure of success has been attained—especially in Red wines of the Claret (or Bordeaux), Burgundy and Italian types; White wines, such as "Champagnes" and Rhine and Moselle types; Sauternes, and the stronger wines, such as Port, Sherry, Madeira, Malaga, etc. There are also several American wines which have won distinction under entirely new names, noteworthy among them being Angelica, Catawba, Concord, Delaware, Scuppernong and Zinfandel.

Still wines are produced in both the East and in California, and to a limited extent in the South; "Champagnes" principally in the East, especially in western New York, and the Central States.

In the East the grapes chiefly grown for sparkling wines are the Catawba and Delaware (see article on GRAPES), Elviras and Dutchess (white grapes), and the Isabella and Eumalans (black grapes). The wines from several or all of these six, and other, varieties are blended in the making of the best domestic "Champagnes." The Concord (also described and illustrated in the article on GRAPES) is used for both red and white still wines and the Clinton and Ives for heavy red wines.

The most famous of Southern wine grapes are the Scuppernong (which see), Norton and Ives, the last two especially noteworthy as the source of fine clarets.

The largest wine product is that of California, the average output exceeding 40,000,000 gallons a year, about 25,000,000 gallons of which is "dry" wine. The greater part of the dry-wine district is in the neighborhood of the Bay of San Francisco, the modification of the temperature there by the sea fogs resulting in grapes ripening at the particular sugar and acidity points which are the most suitable for its fermentation. The sweet wines are produced very largely in the hot interior valleys, where the grapes ripen at a comparatively high sugar and low acid point. The industry is conducted on a very large scale, especially in the sweet wine districts—there are many wineries which crush more than 10,000 tons of grapes every season.

AMMONIA: is a gas consisting of Nitrogen and Hydrogen, marked by a strong pungent smell and possessing alkaline properties. Its common form, Spirits of Ammonia or Hartshorn, is water saturated with the gas.

The many household uses of Ammonia are familiar to all. It is also about the best thing to apply to the bites or stings of insects and is said to be an excellent fire

extinguisher. It is sometimes used in baking powders, but being extremely volatile it soon loses its strength.

ANCHOVY: a small fish of fine and peculiar flavor, a member of the herring tribe, and closely resembling the English Sprat. It is found in several parts of Europe, but is most abundant in the Mediterranean, especially in the vicinity of the Island of Gorgona, near Leghorn, where also the catch is generally conceded to be of the finest quality.

Anchovies are prepared for exportation by removing the heads, intestines and pectoral fins and packing in rock salt in small kegs, to be later bottled, whole or filleted, in oil or salt, etc., or otherwise repacked for retailing. Dutch anchovies are cleaned of their scales, the French and Italian are not. The small fish are valued more highly than the larger.

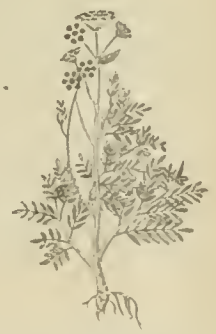
Anchovies are also extensively potted and made into a butter or paste and a sauce or essence. The ancient Greeks and Romans prepared the sauce or relish known as "Garum" from them.

ANCHOVY ESSENCE: a pink-colored, thick, oily sauce, consisting of pounded anchovies, spices, etc., used as a flavoring for soups, sauces, etc.

ANCHOVY PEAR: a brown russet fruit borne by a very ornamental tropical tree, thirty to fifty feet in height, with large flowers and leaves averaging three feet in length. It tastes somewhat like a mango and is used in the same way.

ANGEL FISH, sometimes, but incorrectly, called a *"Porgy"*: a dark-grey southern fish, resembling a Butterfish, but with long side-fins, weighing generally from three to ten pounds, but sometimes caught very much larger. It is in season during July and August. The flesh resembles in taste that of the Sheepshead.

ANGELICA: an aromatic plant, native to the Alps, which grows wild in Europe, as far North as Iceland and Lapland. The natives of the latter country use the fleshy roots as food and the stalks as medicine. Commercially, the young and tender leaf stalks and midribs are candied for sale as confectionery, and the roots and seeds are employed to flavor gin.



Angelica

ANGELICA Wine: "white" sweet aromatic domestic wine, resembling Tokay in style. Some varieties consist of the unfermented grape juice fortified with brandy or clear spirit immediately after pressing; others are partly fermented before fortifying.

ANGOSTURA, or **Angustura:** an aromatic bitters which takes its name from the town of Angostura, Venezuela, the original place of manufacture. It is used as a digestive tonic and for flavoring beverages, etc. It is now made in Trinidad, British West Indies.

ANILINE DYES: a general name for coal-tar dyes, which are chiefly made from aniline, obtained from nitro-benzene. See DYES.

(1) Spitzenburg
(2) Green Sweet
(3) Golden Russet
(4) Greening
(5) Baldwin
(6) Northern Spy
(7) Swaar

APPLES

ANISE SEED, Aniseed: the minute seeds of an annual plant, cultivated chiefly in Spain, Egypt, Syria and other Mediterranean countries, but also to a large extent in Germany, principally in the vicinity of Erfurt. It is used as a condiment, in the manufacture of liqueurs, candy, etc.

Star or *Chinese Anise,* imported mainly from China, is in flavor similar to Common Anise, but is very different in appearance, being star shaped and frequently of a total diameter of about an inch.

Chinese Common
ANISE

ANISETTE, *Crème d'Anise*: a liqueur with aniseed flavor. See general article on LIQUEURS.

ANNATTO, or *Annato, Arnotto, Arnatto*: a red color extracted from the reddish pulp which surrounds the seeds of the Arnatto tree, found principally in South America and the West Indies. It is exported chiefly in cakes of two or more pounds weight, generally wrapped in leaves. Externally it usually presents a brown appearance.

Annatto is frequently used in coloring butter and cheese—giving the former the rich yellow hue required by the consumer without affecting its quality.

Arnatto

ANTELOPES: the general title of a large and varied class of deer and similar animals. The flesh of some is excellent, that of others not generally agreeable to the human palate. See VENISON.

ANTS. The only point concerning these troublesome insects that is of real interest to the grocer is how to get rid of them. The remedies suggested are as numerous as those for a cold! Here are a few:

Balsam of Peru. Rub a thin film of it near the bottoms of the table legs or on the floor, and renew the application in three weeks. In addition, boil one ounce of the balsam in a gallon of water for thirty minutes, and sponge this water, while hot, over wooden floors and walls.

Powdered Borax and *Pulverized Alum.* Sprinkle underneath the paper on the shelves.

Oil of Sassafras. Follow the train—for ants form a train in traveling—to its origin. Saturate a small cloth with the oil and apply to every portion of the distance covered. If they come out of a crack, pour a little of the oil into it—it is sure death to them.

If ants become troublesome about the pastry case in the summer time, insulate it by raising it on four inverted cups set in saucers filled with water. Give the case a good cleaning and in half a day the ants will become discouraged. Do not leave the case insulated longer than is necessary, as it is suggestive.

APHIS: a plant louse or insect which feeds on vegetables, fruits, etc., and is a source of much loss to farmers and gardeners. It is also of scientific interest because of its

faculty of emitting a sweet fluid known as "honey dew" or "aphis sugar," which is eagerly sought by ants.

APENTA: a still and sparkling Hungarian aperient water. See MINERAL WATERS.

APOLLINARIS: a noted effervescent table water. See MINERAL WATERS.

APPENZELL: a cheese similar to "Swiss" or Emmenthaler. See article on CHEESE.

APPLES. This well-known fruit has been much improved by cultivation from its original wild state, which is still seen in the crab apple—a small, acid, almost uneatable fruit, and yet the parent of the 1,500 varieties now used in so many ways—for eating raw, in cooking and preserving, for jellies and desserts, for cider and vinegar, etc. The cultivated tree is at its prime when about fifty years old and will bear fruit for more than a hundred years.

The apple contains an abundance of potassium and sodium salts and its acids are thought to be of great benefit to persons of sedentary habits. A ripe raw apple digests in eighty-five minutes. The practice of serving apple-sauce with roast pork, rich goose and similar dishes is based on scientific reasons.

The different varieties vary widely in taste, appearance and time of ripening. Fifteen of the best known types are shown on the accompanying *Color Pages*—opposite, and facing page 22.

The Early Harvest, a small yellow sweetish type, is one of the first to make its appearance, ushering in what are commonly known as the "summer apples." Of these, the leading varieties are the Highglow, very handsome and fine-flavored, the Sourbough and the Gravenstein—the last-named generally rather large, roundish but somewhat irregular in shape and in color greenish to orange yellow, striped or mottled with red. Of smaller size but of attractive red skin and tender, juicy, sub-acid flesh is the June, very popular in the West and South.

Next come the "Fall Apples," the best of which are: the Maiden Blush, medium to large in size, oblate and regular in shape, and in color yellow with crimson blush; the Belleflower; several varieties of the Holland Pippin, of good keeping quality, medium size, flattish in shape and yellow in color—inclining sometimes to green, and occasionally to red; the Fall Pippin, large, round and yellow, and the Strawberry Pippin.

Of the "Winter Apples," the leading varieties are the Greening, Baldwin, Northern Spy, Spitzenburg, Seek-no-further, Lady Sweet, Gill Flower or Sheep's-nose, Green Sweet, Swaar, Streaked Pippin, Russet, Newton Pippin, etc. More Greenings are sold than of any other winter type, it being the general family apple, both raw and cooked. When first gathered in the fall it is of bright green color, but this gradually changes to a rich mature yellow. The Baldwins are comparatively inferior, generally of a dry, insipid flavor, but they are largely bought because they are sound and fine looking, frequently presenting a better appearance than really superior apples. The Northern Spy and Spitzenburg are generally considered the highest types of the "Baldwin" class of apple—good specimens are handsomely colored and excellent in flavor and quality. The Spitzenburg is of deep rich yellow, nearly covered with bright red, with darker red stripes. The Northern Spy is of similar colors but generally shows more yellow. The "Seek-no-further" is usually of deep yellow, but some varieties are bright red. The Lady Sweet or Pommeroy, one of the most desirable of "sweet apples" for general market

(1) Early Harvest
(2) Gravenstein
(3) Red June
(4) Streaked Pippin
(5) Newtown Pippin
(6) Lady Sweet
(7) Malden Blush
(8) Fall Pippin

APPLES

purposes, is of fine red and yellow color, good shape and flavor and excellent keeping qualities. The Gill Flower is commonly called the Sheep's-nose from its peculiar pointed shape. The Green Sweet is a crisp, brittle, juicy fruit, and one of the best late-keeping sweet apples. The Swaar, generally of greenish or yellow color effect, is not attractive in appearance but it is noted as a fine dessert fruit. The Streaked Pippin is a large fruit of mixed red and yellow color, of good edible and cooking qualities. The Russet is the latest comer and the hardiest and is usually kept until the other varieties are beginning to disappear. The Newton or Golden Pippin is now raised chiefly for export to Europe, where it is much esteemed.

Another beautiful and delicious fruit is the Rennet, of regular shape, skin of rusty tinge and flesh of sweet acid and delicately aromatic flavor. It is not, though, a good keeping apple.

The care of apples is simple but exact. They should be kept dry and cool—the colder the better, short of freezing—and all bruised or decaying fruit must be removed at once from contact with sound fruit, as otherwise the trouble will speedily spread to an alarming extent.

The packing of apples is changing. The barrel is being superseded by the box—which is a great deal better suited to the retail trade. In the Northwestern and Pacific States it is employed exclusively. The box most commonly used measures inside 9¾ inches high, by 10¾ inches wide and about 20¾ inches long, and holds about one bushel, or nearly fifty pounds of fruit, varying slightly according to the variety.

When the box package is used, the fruit should be carefully graded to uniform size and packed in layers. If wrapped in paper, similar to that used for oranges, a higher price can be obtained than for unwrapped fruit. A fancy display label bearing the title of the fruit and the name of the grower or dealer should be prominently displayed on each box.

Apple Storage. The bulk of the apples placed in cold-storage warehouses begin to come into the market after the Christmas holidays, those first sent out being the less hardy varieties which will not keep for any great length of time. Some very choice types can be carried over until early in July, just reaching the season when the earlier varieties of the new crop are ready.

Apples are placed in the cold-storage rooms in exactly the same barrels and boxes in which they are shipped from the grower, not even a barrel-head or box-lid being removed. The temperature is kept constantly at about 32° Fahr., and it is a pretty safe assertion that any apples going into the warehouse in perfect condition will

Barreling Apples

still be found so when displayed for sale on their re-appearance in the markets.

The New England system of packing apples in sand is said to be a fair substitute where cold storage is not available. A layer of dry sand is placed in the bottom of the barrel and on this a layer of apples, none of the apples, though, touching each other. Dry sand is then placed both between and over the fruit, the process being continued until the barrel is full. Apples packed in this manner keep well, and if one or two in a layer are slightly affected the sand prevents the trouble from being communicated to the others.

Evaporated Apples. The best grades of evaporated apples are sold as "Fancy," the second quality as "Choice" and the third as "Prime." None but the finest varieties of the white-fleshed kinds should be used for the highest grade "Fancy." Fruit that is too poor to be worked into the "Prime" class is generally utilized by chopping and evaporating the whole fruit, without peeling or coring. The product is known as "chops" and is chiefly exported.

The greater part of the evaporated apple output is handled in 50 lb. boxes, especially for export, bakers' supplies, etc., but for private trade a considerable quantity is put up in cartons, weighing generally 1 lb. gross. The latter method is the most generally satisfactory for retailing, especially if the cartons or boxes are correctly labeled with the name of the variety. The labeling is important because of the differing qualities and characteristics of the many kinds. When bulked indiscriminately, a single large box may contain a dozen different varieties, many of them unfit for cooking, and the result of their use is very liable to be disappointing.

See also general article on DRIED AND EVAPORATED FRUIT.

APPLE JACK: the New Jersey name for *Apple Brandy*. It is plentiful in most of the Eastern States and, as it is generally cheaper than any other spirit, it serves a good purpose in cooking, for sauces, flavoring extracts, etc.

APRICOT: a fruit which in appearance suggests a small yellow peach, but which is borne by a tree of the same genus as the plum. It is eaten in every imaginable way —fresh, the fine varieties being especially valued for desserts; canned, dried, candied, made into jam, etc. It may be prepared for use by the housewife in any way that peaches are.

The apricot was introduced into Europe during the time of Alexander the Great, and was first cultivated in England during the sixteenth century.

The fresh apricot season commences about the middle of June and lasts for about eight weeks.

The California dried apricot product amounts annually to 15,000 tons or more and is supplemented by the great quantity canned there. Only a comparatively small part of the California crop is marketed fresh, as the fruit is of such delicate texture that it does not stand shipment well.

There is also a limited importation of dried and candied apricots from Italy and the south of France.

APRICOT BRANDY: a liquor distilled from fermented apricot juice.

APRICOTINE, *Crème d'Abricot*. See general article on LIQUEURS AND CORDIALS.

APRICOTS

AQUA VITAE, *Latin* for *"water of life"*: a name familiarly applied to the leading native distilled spirit. Thus, it is "usquebaugh" or whisky in Scotland and Ireland; "geneva" or gin in Holland; and "eau de vie" (French for "water of life") or brandy in France. When the term is employed in England, French brandy is understood.

AQUAVIT, a modification of *Aqua Vitae*: a liquor distilled from wheat and potatoes, originally made in Norway.

ARACHIDE OIL: another name for Peanut Oil (which see).

ARGOL: is crude Cream of Tartar (which see). It is held in solution in the juice of grapes but it is not soluble in alcoholic fluids, so the formation of alcohol during the fermentation of wine results in its precipitation. In wines bottled before they are fully ripe, the argol is precipitated on the side of the bottle in a sort of crust, thus forming what is called "crusted wine." The imported product comes chiefly from France and Italy.

AROMA: a pleasing odor, a delicately rich and spicy fragrance, generally applied to the fragrance of wine, coffee, etc.

ARRACK, *Arack, Arracki, Ariki, Araka,* etc.: a general name for numerous spirituous liquors drunk in the East, variously made from coarse palm sugar or "Jaggery," rice, kumiss, the juice of dates, cocoanuts and other palms, etc.

The "Saki" or Rice Spirit of Japan is a softened sound of "Arracki."

Arrack is consumed here to a limited extent, that from Batavia being considered the best. It is too powerful to be generally popular as a beverage, but it finds favor for use in punches and with grape fruit, etc. When sliced pineapples are put into Arrack and the spirit is kept for some time, it mellows to a delicious flavor and many consider it then unrivaled for "nectarial punch" or "rack punch."

ARROW-ROOT: a starch obtained from the root of a West Indian plant, largely cultivated in all tropical countries. Its name is said to have been obtained from the fact that the Indians used the fresh roots to cure the wounds made by poisoned arrows. More probably it is derived from *Ara*, the old Indian name of the plant.

Arrow-root

The roots are dug when they are about a year old. When good, they contain about 23 per cent. of starch. In Bermuda and Jamaica they are first washed, then cleaned of the paper-like scale, washed again, drained and finally reduced to a pulp by beating them in mortars or subjecting them to the action of the wheel-rasp. The milky liquid thus obtained is passed through a coarse cloth or hair sieve and the starch allowed to settle at the bottom as an insoluble powder. This powder, dried in the sun or in drying houses, is the "arrow-root" of commerce and it is at once packed for market in air-tight cans, packages or cases.

Arrow-root has in the past been quite extensively adulterated with potato starch and other similar substances, so care is needed in selection and buying. The genuine

article is a light, white powder (the mass feeling firm to the finger and crackling like newly fallen snow when rubbed or pressed), odorless when dry, but emitting a faint, peculiar odor when mixed with boiling water, and swelling on cooking into perfect jelly, very smooth in consistence—in contradistinction to adulterated articles mixed with potato flour and other starches of lower value which contain larger particles.

Arrow-root is used as an article of diet in the form of biscuits, puddings, jellies, cakes, etc., and also with beef tea, milk or veal broth, or plain boiled with a little flavoring added, as an easily digestible food for invalids and children.

ARTICHOKE: a plant resembling the thistle, which is cultivated for its flowering head, gathered before the flower expands. The edible portion is the fleshy part of the calyx—the "bottom" or basin of the blossom—and the base of the leaves of the flower. The flesh corresponds to what children call the "cheese" of the ordinary thistle. As eaten here, it is generally boiled before serving, but in Europe it is popular raw, seasoned only with salt and pepper.

Artichoke—showing edible base or "bottom"

If cut so as to leave an inch or two of stem, artichokes possess good keeping qualities, frequently remaining quite fresh for two weeks or longer under average retail conditions.

Canned artichokes, principally the *fonds* or "bottoms" only, are imported in large quanties from Italy and France. The small artichoke buds are used chiefly for garnishing.

The *Jerusalem Artichoke* (which see) is an entirely different plant.

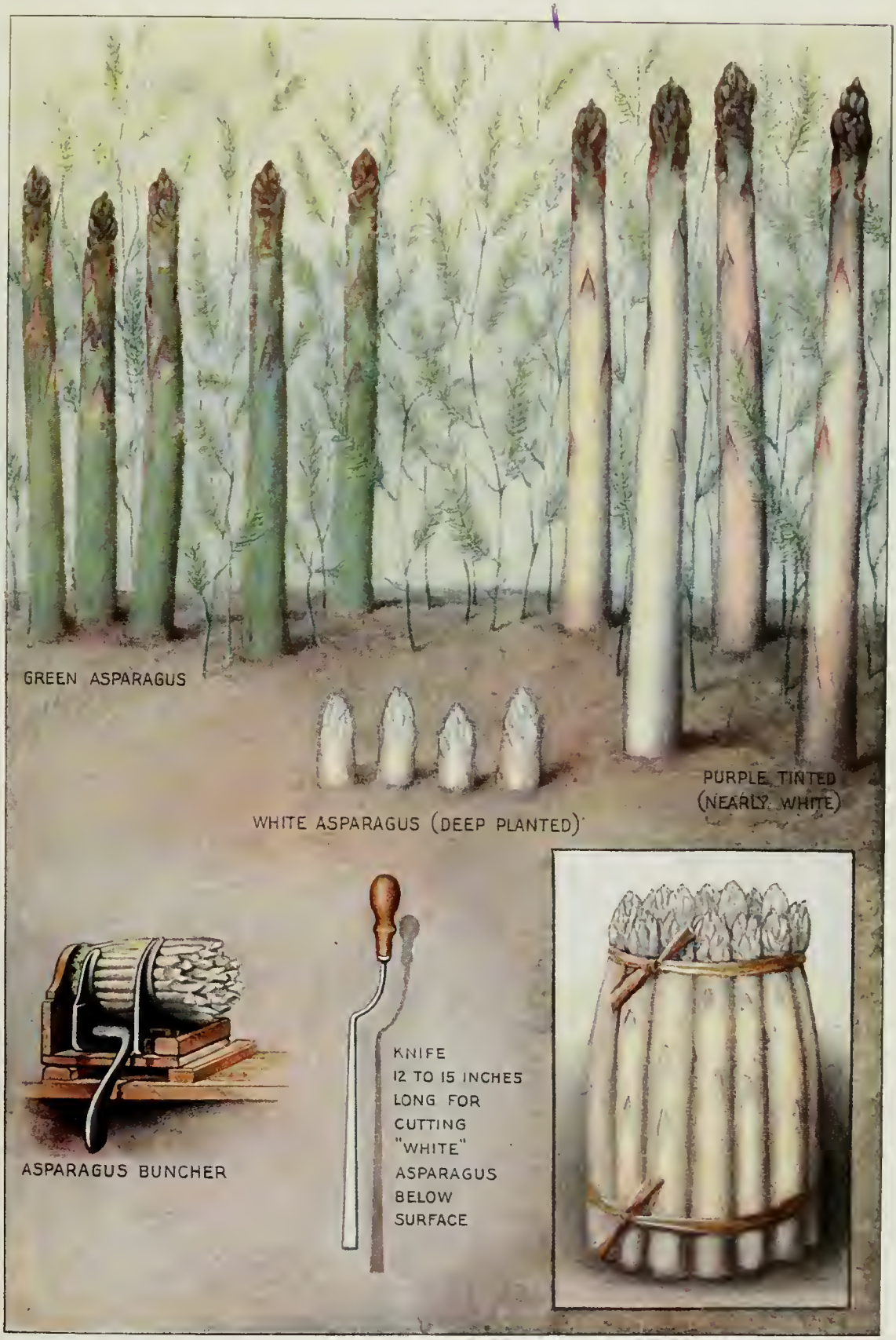
ASH: a word generally employed in food analysis to designate the mineral components (salts, etc.), as they form the residue or "ash" left after the application of heat sufficient to destroy all combustible components. See FOOD VALUES.

ASHES. Formerly, all wood ashes were saved by prudent housewives and used for soap making, because of their strong percentage of lye, and in some sections the ashes of plants, especially of ferns, are still dampened and roughly made into balls for use in house cleaning. The cheapness of modern cleaning compounds has, though, practically ended this little economy.

ASPARAGUS: a native of Europe, which was a favorite vegetable of the ancient Romans. In this country, only the "spears" are eaten but in other parts of the world the seeds have been largely used for coffee—they are still recommended for that purpose in some parts of Europe—and a fermented spirit is made from the berries.

An asparagus bed will continue to produce for a century, but it is at its best between the third and sixth years. Its commercial productivity is generally limited to fifteen years, as the stalks become smaller and less desirable with age unless fertilization is very heavy. The roots are buried from four to ten inches below the level and the sprouts or spears are cut as soon as they reach the surface or a few inches above it and are then tied in bunches for the market.

SCHOOL OF HOME ECONOMICS
STATE NORMAL SCHOOL



ASPARAGUS

The extension of cultivation has resulted in changing asparagus from a vegetable almost exclusively for the well-to-do into one within the reach of nearly everybody. It is furthermore a vegetable of great adaptability—it can be readily grown all the year round, though the northern winter supply is necessarily somewhat expensive, and is nearly as good canned as fresh.

The two principal market divisions are into the "green," in all sizes and qualities and varying from bright green to purplish; and the "white," generally more or less tinted with purple and usually in the large size. The white is obtained chiefly by deep planting of the roots or by banking earth up around the shoots, but some special varieties grow nearly white without this assistance. The preference for one or the other is in some sections a matter of fixed local sentiment, and in others is subject to changing fashion. New England and Southern trade prefer the green; the West and Northwest, the white, and New York vacillates between the two.

In cooking fine fresh asparagus, it is best to stand the bunch on end, leaving about an inch of the tips above the surface of the water. In this way it is possible to cook the spears thoroughly without destroying the appearance of the tips. If the tips are not sufficiently cooked by the steam, the bunch may be laid on its side for a few minutes immediately prior to taking out.

ASPIC: the name given to a clear savory jelly made from meat and used to decorate entrées, tongues, salads, etc. The word is derived from "Spike jelly," *i. e.*, jelly flavored with "Spike" or "French" lavender, at one time a popular dessert.

ASSETS: the whole available property of a merchant or a firm. In computing the assets of a store a great mistake is made when everything in stock is put down at its original price. The available value is rarely more than what the goods would bring at auction.

AVOCADO: a salad fruit gaining in popularity. See ALLIGATOR PEAR.

AVOIRDUPOIS: the system of weights used for everything except medicines, precious stones and precious metals. A pound avoirdupois contains 16 ounces or 7,000 grains (see *Weights* in APPENDIX). The name is derived from the old French words *aver* (goods) *de* (of) *peis* (weight).

AWNINGS: are made usually from sail duck canvas and vary in price and durability according to the heaviness of the canvas. Permanent awnings are often of corrugated iron, but the best qualities of canvas ought to last very nearly as long. The practice of whitewashing the awning in order to prevent mildew, is a useless waste of time and money—it does prevent mildew, but the lime in the whitewash eats into the cloth and renders it brittle and rotten. The tendency to forbid fixed roofs or awnings over the public streets is steadily growing, but the grocer will often find smaller awnings over his outside display of fruits and vegetables profitable if not really indispensable.

AXLE-GREASE: used for lubricating axles. The basis of the different brands is a compound of fatty oils to which is added tar, graphite, or mica to increase the durability of the grease and give it a better surface.

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BABCOCK TEST: widely employed for determining the richness of milk and cream. The essential principle of the process is that sulphuric acid added in the proper proportion dissolves all components of the milk except the fat, permitting the entire fat content to rise to the surface to be measured. In creameries, to facilitate the process, the samples held in closed test-bottles, are, after the addition of the acid, agitated in centrifugal machines for some minutes before and after the application of a certain quantity of hot water.

BACON: is the cured and smoked meat of the breast-pieces, sides and belly of the pig, the breast-pieces being generally employed for choice "breakfast bacon."

In buying, one should look for thin rind and fairly even streaking of tender red lean and firm white fat. That with yellow fat should be avoided. As it loses in weight with keeping, a retailer should not carry it in greater quantities than required to meet current demands.

Bacon should be kept in a cool, dry place. The injunction to avoid exposure to the sun, applies with particular force to the sliced varieties packed in tin and glass.

Instead of purchasing bacon by the pound and having it cut in slices, the average householder will do better to take it by the whole strip in canvassed or wrapped form. If freshly cured when bought and if the cover is replaced each time after opening, it is easily kept in good condition until consumed.

Bacon is a nutritious as well as popular article of diet. Some people of sedentary habits find it hard to digest, but the choicer kinds are quite frequently prescribed as part of invalid dietaries, in place of cod liver oil and similar preparations, the curing and smoking of the bacon-fat aiding in its assimilation.

Broiling is the best method of cooking bacon, but careful frying will do fairly well. The slices or rashers should be very thin, not less than six slices to the inch. The skin on the one side and the smoke-colored edge on the other should be cut off before cooking. The broiler or pan should be warm before the slices are put on and the fire should be brisk. Some people like the bacon crisp, but it is more acceptable to the average palate when nicely browned but still elastic. It should be eaten immediately after cooking, as if allowed to stand for any length of time both flavor and tenderness are lost to a large extent. See *Color Page* opposite 292.

BACTERIA: the family name which includes a great many of the smallest varieties of micro-organisms or "microbes"—minute vegetable growths. They are found in three chief forms—round, rod-shaped and spiral—but as a class they are distinguished by their reproduction by fission—the full grown bacterium, except in a few cases, multiplying by dividing itself instead of producing others by budding (as yeasts) or by seeds or spores (as molds). They are universally recognized as of vegetable nature but some types are motile, the power of movement being often due to hair-like processes called flagella. They are so small that they are discernible only by microscopes of high power—even the width of the finest needle would, compared to a bacterium, look like the width of a man's thumb beside a speck of dust. They are as a class the most important both for good and evil, of all microbes, the most numerous, the most vigorous—and the most difficult to control, for where the conditions are favorable, millions can result within twenty-four hours from a single active specimen left undisturbed. They are present everywhere that life is found, and some of them are always at work in all kinds of moist food unless hermetically sealed or

held at the freezing or boiling points. Freezing will stop their increase but only heat considerably above the boiling point, or long continued boiling, is a sure destroyer of all kinds.

Bacteria are found in great numbers also in various parts of the human body, but under normal conditions the presence there of some types is not only harmless, but absolutely necessary to health and life—for there are, from the human standpoint, both "good" and "bad" bacteria, and we need the former to counteract the latter.

In addition to their functions in the human body—which subject belongs rather in the province of the physician than the layman—and their value in the general economy of the universe—which is too wide a subject for discussion here—bacteria, properly controlled, are of great value in the production of many foods. Their presence in various articles assists digestion by the chemical changes effected and also by producing flavors which stimulate the proper secretion of the digestive fluids which are not excited by flavorless articles of diet.

Some varieties, for example, are almost indispensable adjuncts of butter and cheese making. The "ripening" of cream before churning, is merely waiting for chemical changes to be effected by the growth and increase in it of good bacteria. One thousand million of bacteria to the square inch is a conservative estimate for well ripened cream. Butter made from cream too fresh, and therefore deficient in bacterial life, is flavorless. This ripening of cream is not new—though the knowledge of the cause of the change is. Long before the presence and activity of bacteria were discovered, the butter maker used to set his cream aside and allow his unsuspected helpers to ripen it before he commenced churning. Another of the secrets of good butter making is though to know how far to let this change continue, for if overdone the cream is spoiled.

Many bacteriologists have made a study of the production of the best kind of bacteria for the use of butter-makers, and certain varieties can now be procured in open market under the name of "Pure-Cultures." These are used in much the same manner as yeast is used by bakers.

In the manufacture of cheese, bacteria play an even more important part—in fact, its manufacture without them is inconceivable, as the flavors for which cheeses are prized are directly attributable to bacterial agencies—though in some cases, as Brie, Camembert, Gorgonzola, Roquefort and Stilton, credit must also be given to the employment of special "mold" microbes. The production and sale of bacteria for cheese making has reached an active stage in Europe and it is only a question of time when it will be possible to set cultures for all the choicest imported cheeses at work in local American dairies.

Again, the only good table vinegar is the result of the activity of a species of acid-producing bacteria, and even the *lactic bacterium*, which incurs the enmity of the unthinking by "souring" the milk, is a very good friend—in this particular case the flavor of the milk is spoiled for many people, but the lactic acid formed makes it an especially health-giving drink and prevents for a time other noxious bacteria from rendering it dangerous by decomposition. Indeed, milk that has been "preserved" from souring by checking the formation of lactic acid may prove distinctly dangerous for consumption even though the fresh flavor is retained.

These instances give some idea of the good services rendered under certain conditions by many kinds of bacteria—and they are also indispensable to agriculture

and other industries—but in the retailer's establishment and the household they are best regarded as enemies to be fought at every turn, for their uncontrolled access to fresh food is certain to result in loss and sometimes in danger to health. They are far more generally destructive than either wild yeast or molds. All real putrefaction is due to the action of bacteria—the breaking down of the structure of the food as they feed on certain elements in it and other changes caused by their growth and multiplication—and, as already stated, they are present everywhere, being especially plentiful in and around human habitations. Thoroughly dry, salted, smoked and (under certain conditions) spiced and pickled foods are safe from their depredations, but any fresh foods that contain from 25% to 30% moisture, except those that are very acrid or very heavily sugared, offer suitable soil for their growth and multiplication—if undisturbed, they rapidly take them through the various stages of putrefaction to the culminating point of decay.

Daylight, sunshine and cleanliness are opposed to bacteria, so stores and homes, and especially kitchens, should be blessed with all three as a preliminary safeguard. Next, fresh meats, canned goods (after opening) and similar foods should be eaten as fresh as possible. When immediate consumption is impossible, a good refrigerator offers a considerable measure of temporary protection, but it is only temporary, for the growth of some kinds of bacteria is checked by nothing short of freezing.

As already stated, boiling continued for an hour or so after the full heat has permeated every part of the food will kill all kinds of bacteria—will *sterilize* it—but this must be followed by immediate and hermetical sealing while still boiling hot, or new bacteria may get into it and start propagation afresh.

BAGS. Formerly the making of paper bags was one of the duties of the grocer's assistants, but they are now made more cheaply by machinery. Many manufacturers, desirous of advertising their wares, print paper bags and supply them to the trade at a nominal price, or give them with every sale of their own goods, but every good grocer can better afford to advertise his own store in that way, than to make the trifling saving.

Paper bags are made in a great variety of sizes and qualities. The present self-opening square bag was invented in 1883, following closely after the introduction of the satchel bottom bag. (See also PAPER and WAXED PAPER.)

BAKING. See sub-head in general article on COOKERY.

BAKING POWDER: a compound used in place of yeast, in which an acid acting upon an alkali generates carbon-dioxide (carbonic acid gas). As this action takes place as soon as the powder is moistened, the dough is made ready for baking more promptly than when yeast is used.

Practically all baking powders are composed of an acid, an alkali and a filler. The *alkali* is nearly always Bicarbonate of Sodium, and starch is generally employed as the *filler*, but there is a wide variation in the acid constituent used, and baking powders may be conveniently classed according to its nature. They may be recognized as follows:

(1) *Tartrate Powders*, in which the acid constituent is cream of tartar or tartaric acid:—Royal, Dr. Price's, Cleveland's, Sea Foam, etc.

(2) *Alum Powders,* in which the acid constituent is generally a calcined double sulphate of aluminum and sodium:—Davis, Calumet, K. C., etc.

(3) *Phosphate Powders,* in which the acid constituent is acid calcium phosphate:—Horsford's, Wheat, etc.

In the process of baking, the chemical constituents undergo certain changes, so that the residue in the finished bread is of somewhat different character from the original ingredients. That left in food, when cream of tartar powders are used, is rochelle salts; powders founded on phosphates leave calcium and sodium phosphates, and alum powders leave glauber's salt and a salt of aluminum. The quantity is, however, in each case very small.

The date when baking powder was first manufactured is involved in some doubt, but it is known that Preston & Merrill, of Boston, made it prior to 1855, the common name then being "yeast powder." Phosphate powders were invented by Professor E. N. Horsford, of Cambridge, Mass., in 1857, and their manufacture commenced soon thereafter by the Rumford Chemical Works, of Providence, R. I. Royal Baking Powder was first introduced in 1867 and Alum powders about the year 1875.

Grocers should not sell baking powders which do not give entire satisfaction, even if they are cheap and pay a good profit, because the loss resulting from a dissatisfied customer is likely to be much more than the profit on the baking powder. Private brands should be avoided because of the uncertainty as to their true character and legality under the Pure Food Laws. It is safest to buy only well known "regular" brands bearing the name of a responsible manufacturer.

Care should be taken to keep all baking powders in a dry place as they lose their strength if exposed to dampness.

BALM, *Balm Mint, Lemon Balm.* See GARDEN BALM.

BALYX, or *Balik*: an European, originally Russian, term for salted or smoked Sturgeon.

BAMBOO SHOOTS: young shoots of the bamboo plant, eaten as a vegetable by the Chinese and one of the characteristic components of Chop Suey.

BANANAS. The banana, the most prolific fruit plant known, is a native of the East Indies but is now cultivated in all tropical countries. It is palm-like in appearance, but is in fact a large "plant," the thick, soft stem being formed by the overlapping of the long vertical leaf-stalks. This stem in the dwarf types is only about four feet in height, but in the most widely known varieties it reaches from twelve to twenty feet, up to even forty feet, with a diameter in the latter case of twelve to sixteen inches. The leaves spread out from the top of the sheath, each from six to ten feet in length by two feet or so in width.

Banana blossom

The flowers, long and narrow, generally red, sometimes pink and yellow in color, are at first folded

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A great Banana plantation near Port Limon, Costa Rica

close together to form a head at the end of a large drooping spike. Those at the point of the spike die unproductive, but the others, commencing from the stem side, rapidly change into fruit, layer by layer in circles around the stem, which steadily elongates so as to give each layer or "hand" plenty of room to develop—some branches containing as many as 160 fruits. A branch is known commercially as a "bunch"—the standard size being nine "hands" or "ridges," or "layers" to a stem, with from ten to fifteen bananas to a "hand." In Central America, the bunches often run a good deal larger.

Contrary to popular belief, bananas do not grow on the tree as they hang in the store, but with the small end of the fruit pointing upward.

After the fruit is taken, the plant is cut down—a new stalk growing up again and producing fruit in ten to twelve months. This course is repeated for about ten years, when the vigor of the plant generally decreases and it is replaced by a new cutting. For commercial purposes, the banana is cultivated with a good deal of care—it is set out in hills and rows, very much like maize, except for the much larger distances separating the hills, and is carefully weeded and watched—but as a native food it needs very little attention, all that is necessary being to loosen the earth around the roots every season and to remove any suckers thrown up and plant them at requisite distances.

The yellow bananas are everywhere the most plentiful, but the red varieties are raised in considerable quantities in Cuba and Central America. Their respective merits are entirely a matter of individual opinion.

The "fig" or "lady-finger" banana, a very small, thin-skinned yellow variety, is the most esteemed in tropical countries—the flesh is finer and the flavor very soft and sweet.

Bananas are brought to our markets in a green state, coming chiefly from Jamaica and Central America. As they are easily frozen, they are in cold weather packed very carefully before shipping—but are always sent at the risk of the party ordering.

When received by the retailer or consumer in green condition, they should be kept in a moderately warm room or cellar until they begin to show color. Both cold and excessive heat will prevent them from maturing satisfactorily. When ripened, they are especially sensitive to low temperature and will readily deteriorate in any place where the thermometer registers below 50° Fahr. Placing in a refrigerator, or even laying on a cold marble slab, will turn them black and may spoil their flavor.

In selecting bunches, give the preference to those with stems still greenish in color and bearing fruit full and plump in appearance. If the fruit is thin or flat

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GATHERING BANANAS, JAMAICA

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Placing the Bananas in freight cars

looking, the bunch was probably cut too soon and in that case, though the fruit may ripen and become yellow, it will never attain the flavor and delicacy of that properly developed on the plant. Some varieties are naturally more or less "flat" in appearance even when fully developed, but as they are generally inferior in quality, it is safest for the average retailer to adhere to the rule to take only those "full and plump."

Properly selected and carefully ripened to a good deep yellow, the banana of the northwestern retailer is just as delicious as the fruit plucked from the plant in its tropical home.

The banana is in this country nearly always eaten raw, but in the West Indies and other tropical and sub-tropical parts it is also baked and otherwise cooked, both as a vegetable and dessert, made into flour for bread, dried black in the sun after the manner of figs, preserved with sugar and with vinegar, and pressed and fermented to yield a spirituous drink resembling cider.

The *Plantain* (which see) is of the banana family and the fruit resembles a yellow banana, but it is larger and coarser and suitable only for cooking.

BANANA EXTRACT. See general article on EXTRACTS.

BANNOCK: in Scotland and the northern counties of England, a flat round cake made of oat, rye or barley meal, baked on the hot hearth or on an iron plate over the fire. The bannock is the primitive cake, varied in material, of every country.

For consumption in this country, bannocks are enriched by adding chopped almonds, orange peel, etc., to the dough.

BAOBAB, or **Monkey Bread:** the fruit of a low, abnormally thick-trunked tree, native to Africa but grown also in India. It is generally oval in shape and about nine inches in length. It is downy in appearance, but under the down is a strong woody shell, enclosing a fibrous and farinaceous pulp of sub-acid flavor. The juice, slightly sweetened, is frequently used in the treatment of tropical fevers.

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Loading a fruit steamer with Bananas

BANANA

BARBADOS GOOSEBERRY: the edible fruit of the *Pereskia Aculeata*, a cactus found in the West Indies and distinguished as leaf-bearing in the ordinary sense of the word. It somewhat resembles the gooseberry in appearance, is generally yellow in color and of excellent flavor.

BARBERRY: the berry of a shrub of prickly character, growing from four to nine feet in height, which in various types is found wild in nearly every temperate country. In the United States, it is particularly abundant in New England.

The fruit, of bright red color, ripens in October and November. It is too acid to be generally acceptable for eating raw, but it makes excellent preserves, jams, etc., and as such is very wholesome.

The young leaves are of a bitter but pleasing flavor and are sometimes used as a salad and for garnishing.

The famous French jam known as "Confiture d'épine vinette" is manufactured, principally in Rouen, from the Seedless Barberry.

Barberries are also used in France for the manufacture of malic acid. On analysis they show in addition a small percentage of citric acid.

Barberries

BAR-LE-DUC "JELLY": preserves, originally of selected seeded whole white currants, but now also of strawberries, raspberries, etc., manufactured in the French town of Bar-le-duc. The popular term "Bar-le-duc *jelly*" is misleading as the typical product is a jam or preserve, the berries remaining intact in a thin syrup. The title "Lorraine Jelly" is sometimes used, as the city of Bar-le-duc lies within the boundaries of the former province of Lorraine.

BARLEY (*see Color Page opposite* 526): a grain grown in nearly every part of the world, which has apparently been cultivated from the most remote antiquity. The Books of Moses and the early Greek and Roman writers make many references to it. The Greeks are said to have trained their athletes on it and "barley wine" or "beer" was enjoyed at a very early date.

Barley grows very rapidly, in the northern United States maturing in about three months after seed sowing. The greater part of the crop is consumed in the form of malt and malt products—beer and kindred beverages, whisky, etc.

Medicinally, barley is rated as the mildest of the cereals. It contains less protein and carbohydrates but more fats and salts than wheat. In various forms it is especially valuable as a part of invalid dietaries.

Barley Meal: the whole grain ground, is the form in which barley is generally sold for the manufacture of beer, whisky and other liquors. In the northern parts of Europe large quantities are also employed in bread making.

Barley Malt. See MALT.

Pot, or "*Starch*," *Barley:* is the grain deprived of its outer husk.

Pearled Barley: is the grain with both the outer and inner husks removed, followed by a polishing process. It is entitled to place as a "cereal" food, but in the

average American household it is used only in soup or in preparation of home remedies for colds, etc.

The largest consumption of Pearled Barley, including practically the entire output of the finer grades, is among Hebrews, who prepare it both as a breakfast food and a pudding.

Patent Barley: is a flour obtained by grinding Pearled Barley. It has none of the acrid taste found in barley meal ground with the husks.

BARLEY HONEY: is a Japanese product made from barley starch, generally in combination with rice flour.

BARM: foam taken from the surface of fermented malt liquors. It is commonly known as Brewers' Yeast. See YEAST.

BARREL. See tables of *Weights and Measures* in APPENDIX.

BARROW, or *Push-cart:* a small carriage moved by hand. It should be kept well painted and under cover. In purchasing, care should be taken that the load balances evenly on the axle.

BARTER: dealing by an exchange of goods. This was the original mode of dealing before the use of money and is still very common wherever money and banking facilities are scarce. The country dealer is often obliged to take eggs, butter, etc., as pay for sugar, starch and soap, and when he can move the produce quickly and well, and is not paying too much for it, the barter *seems* to give a double profit, because he makes something on the sale of the groceries and something on the sale of the produce. But it is often a great snare for the following reasons:

First, the produce may move slowly and so tie up capital, even if it does not result in loss by deterioration of quality.

Second, the belief that there is a double profit in barter, leads the dealer to pay a higher price for goods taken in trade. There is really no double profit. For keeping, handling and selling groceries, one profit is realized; for receiving, shipping and selling produce, another profit should be earned—and the dealer who performs both for a single profit, is doing half his work for nothing.

Third, it requires all the average man's judgment and ability to run a grocery properly, and those who try to combine with it the business of buying and shipping produce, and its freights, sales, drafts, returns and commissions, generally find out that they are not masters of both, but that one eats up the profits of the other.

Fourth, barter leads to a competition in buying which is worse than that which "cuts" in selling, for the dealer who cuts the prices of his groceries, generally stops before he gets to cost, because he knows just where that point is, but the buyer who competes on produce does not know the price at which the goods will sell in the city and is often easily led into paying more than he can realize after all the charges are paid.

No dealer can afford to do two transactions for one profit; few are capable of managing a double business, and when goods are sold below their value or bought above it, it is well to let others control the market.

BASIL: a highly aromatic herb, with a flavor resembling cloves. The common variety is seldom made use of, but there is a large type whose leaves are employed very generally in flavoring sauces and soups, especially Green and Mock Turtle soup. *Basil vinegar* is made by steeping the leaves in vinegar.

Basil

BASS: a well shaped, round and fleshy fish, of which there are three chief food varieties—the Striped, Sea and Black (or Fresh Water or Lake). The first two are found all along the Atlantic coast. The Striped Bass ranges in weight from half a pound to seventy-five pounds for some huge specimens and is in season all the year round. The Sea Bass averages from a half pound to five pounds and is in season from the middle of May to the end of December. The Black Bass averages about the same weight as the Sea Bass and is in season from June to December—its two principal types are the "Big Mouth" and "Small Mouth," the latter being considered the better. *See illustrations of Striped Bass and Sea Bass in Color Page opposite* 240.

BATH BRICK, or *Bristol Brick*: a dry brick used to polish steel knives and other cutlery, originally made from deposits of fine silicious sand found near Bath, England, but later made also at Bristol, England, and at South Hampton, N. H.

BATH BUN: a kind of light, sweet roll, generally round in shape and usually containing currants, etc. It takes its name from Bath, England, the city of its origin.

BAY LEAVES: the leaves of a shrub of the laurel variety, growing wild in Greece, Italy and other Mediterranean countries and in some Southern sections of the United States.

Among the ancient Greeks, the Bay Leaf was in large part dedicated to heroism and poetry, but modern usage consecrates it to the more material pleasures of the table. The principal consumption is of the dried leaf, used as flavoring for soups, etc.

BAY RUM: a liquor obtained by distilling Bay Leaves in rum, used as a perfume and hair tonic. It is generally imported from the West Indies. Imitations are plentiful, but very inferior in fragrance.

BEAD: the tiny, iridescent bubbles which, on agitation, form on the surface of some alcoholic liquors.

BEADING: any substance added to spirits to make them carry a "Bead," and to cling in drops on the sides of the bottle or glass.

BEAN: a vegetable which appears to have been cultivated long before the commencement of recorded history and in one variety or another to flourish in every part of the world. It was well known to the ancient Egyptains and Grecians—and when the first voyagers reached the Western continent they found that here also the growing of beans, and peas, had apparently always been a common industry among

the natives—their preparation of beans and corn is perpetuated in "succotash."

The bean of European history is the *Broad* or *Windsor* variety, with broad curved pods, containing thick bulging seeds of distinct and agreeable flavor. It is largely grown in Europe and Canada but is not an important crop in the United States as the climate is not suitable for its best growth.

Broad Beans

The principal beans of United States cultivation are the *Kidney* and *Lima*, both of them believed to be native to South America.

The *Kidney Bean* is the *Haricot* of the French and in Great Britain is sometimes called the *French Bean*. There are a great many varieties, capable of general classification into "tough podded" and "edible podded."

The "tough podded" class produces the bulk of the dried beans of commerce, variously known as "Kidney Beans," "Navy Beans," "Marrow Beans," "Black Beans," etc., in many colors, shapes and sizes. "Black" or "Turtle" Beans, grown chiefly in the Southern States, make an especially rich and excellent soup. Some varieties, as "Flageolets," are cultivated with special regard to the consumption of the fresh seeds or beans.

String Beans

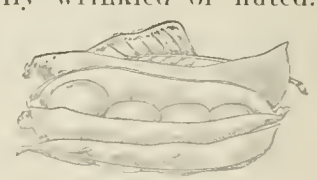
To the "edible-podded" class belong the numerous types of "Wax" or "Butter" beans, eaten fresh at all stages of development. The "Cranberry Bean" or "Red Speckled Bean," both shell and beans spotted or otherwise marked with red, is a variety cultivated principally in New England and popular there for making succotash.

String Beans, *Snap Beans*, *French Beans* are immature pods of numerous kinds of Kidney beans. The best have little or no "string." They should be so young that the seeds are barely visible and should be marketed as quickly as possible after gathering. In buying, see that they are crisp and tender when broken—toughness or limpness is a sign of too great age or overlong keeping.

String beans are kept for winter use by salting, both for home use and retailing. They are a popular winter vegetable among Germans. Before cooking, they are soaked in water over night to remove the salt.

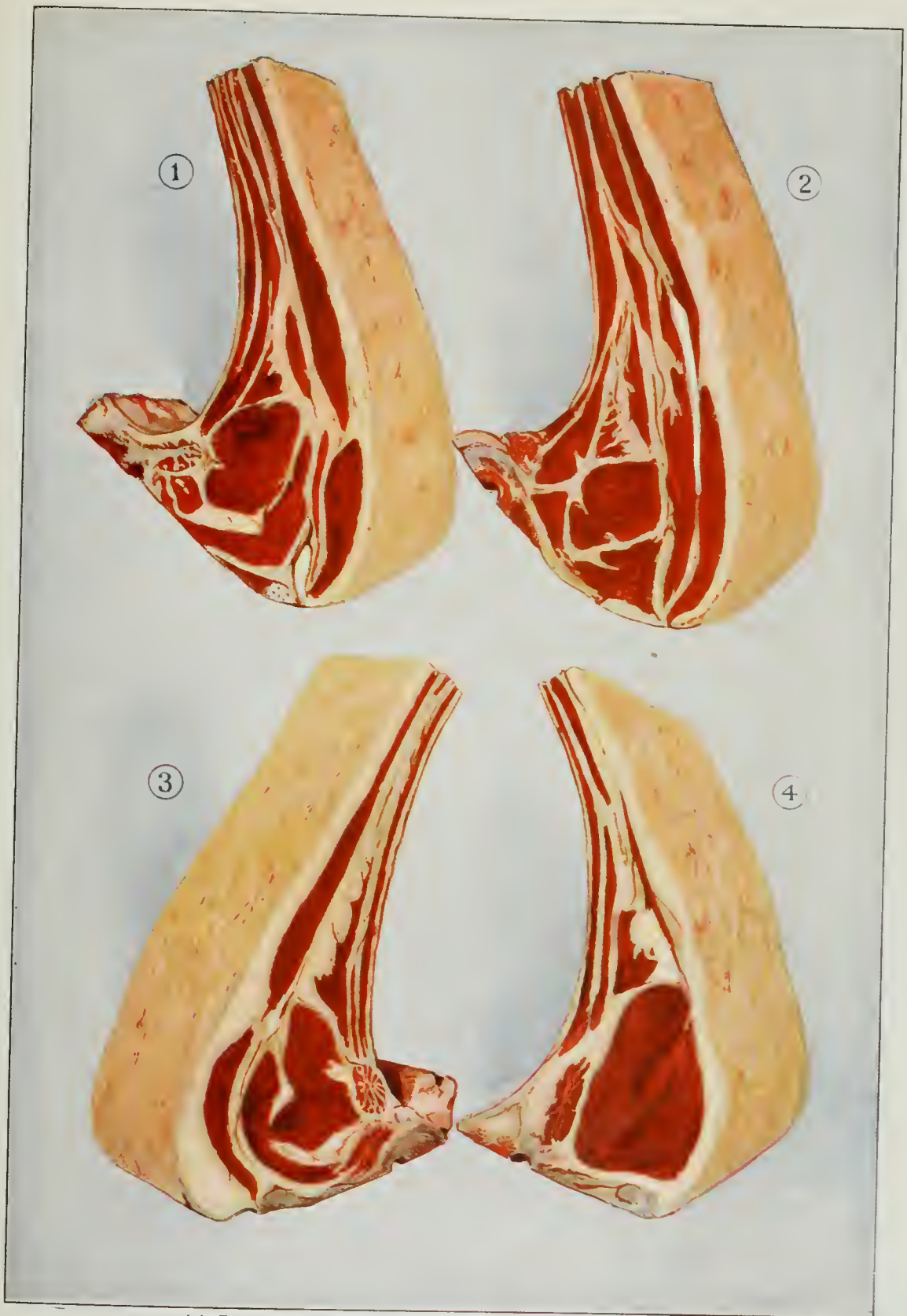
Canned String Beans, described for quality as "Stringless," "Fancy," etc., are graded by size as "extra small," "small," etc. "Haricots Verts" are French string beans.

Lima Beans are flat, slightly kidney-shaped, and generally wrinkled or fluted. They are very popular, both fresh and dried, the green seeded types being considered the choicest. When dried, they serve as an agreeable winter food, soaked before cooking.



Lima Beans

Pea Beans are the *Cowpeas* of the agriculturist, but they belong to the bean family in spite of that title. They are grown in many varieties, bearing seeds of different styles and colors. Their principal use is as a forage plant and soil fertilizer, but considerable quantities are dried for winter use. They are cooked like other dried beans and have a very pleasing flavor.



(1) Fifth and Sixth Cut Ribs
(2) Third Cut Ribs
(3) Middle Cut Ribs
(4) First Cut Ribs

BEEF

Among numerous other "special" varieties are the *Soy Bean* (which see), *Asparagus Bean, Frijole, Lab-lab, Red Bean* and *Scarlet Runner.*

Asparagus Beans take their name from the great length of their pods, which average twelve inches or more in length and in some varieties even exceed a length of three feet. By Chinese gardeners in California they are known as "Tou Kok." The seeds are small but the green pods make an excellent "Snap" bean. They are used only to a limited extent in the United States, principally by the Chinese and other residents of Oriental birth or extraction, but they are beginning to find favor also among the white residents of California. They have long been cultivated in Europe.

Frijole Beans are a small flat variety, generally of a reddish brown or light tan color, very common, both "green" and dried, in the Southwest and Mexico.

Lab-lab, or Egyptian Kidney, beans are frequently grown as an ornamental plant but they are very productive and under proper cultivation can be used both as String and Dried beans.

Red Beans are grown principally in the tropics. They are less liable to cause intestinal irritation than the ordinary bean, but they are difficult to transport because of their tender skins.

The *Scarlet Runner* is also cultivated here principally as an ornamental climber, but it is consumed in large quantities in Europe, especially in England, both as a string and green shell bean.

Selecting and cooking dried beans. Well dried, mature beans are smooth and shiny. If there are folds in the skins, it generally signifies poor drying or inferior quality. They should also be of uniform size and appearance. The most important qualification is that they should cook soft. The size is chiefly a matter of taste and the color, other things being equal, is unimportant. The prejudice against beans that grow dark in cooking is unfortunate as many of them are of fine quality and flavor and frequently more tender than the very white.

Gathering Beans "down South"

The first step in household cooking is the swelling of the bean and softening of the skin by soaking in cold water for generally not less than eight hours. Some cooks cover with hot water so as to shorten the time but the cold water method is preferable. The large Lima Beans after soaking may be easily slipped out of their skins by pressing between the fingers. Many other kinds may be freed from their skins by sieving or stirring in water, the skins rising to the top and being then skimmed off. After this process, beans can be boiled and served in many ways, whole, mashed as "bean pudding," in soup making, etc.

Beans, as also peas, are exceptionally rich in food value. Even when immature or "green" they are much more nutritious than other vegetables of popular use, and

when ripe or "dry" they excel nearly all other foods — both animal and vegetable. They average at least as much protein as meat and nearly as much carbohydrates as wheat. The only lack is in the fat component. See FOOD VALUES.

BEAN FLOUR: pulverized dried or ripe beans. Used in the same way as *Pea Flour* (which see).

BEAR-LITHIA. See general article on table and medicinal MINERAL WATERS.

BEATEN BISCUIT, or *"Maryland Biscuit"*: a kind of bread biscuit made without leavening. The folding and pounding of the dough encloses small quantities of air in minute blisters and these expanding in baking make the biscuit light and porous.

BECCAFICO, or *"Fig-Pecker"*: a name given to numerous small birds, popularly supposed to live on figs, highly esteemed for the table in Southern Europe.

BEECHNUT: the seed of the beech-tree, one of the most beautiful members of the oak family, found in numerous varieties in this country and in Europe. The nuts—sharp-edged and triangular in shape—grow in pairs in a rather prickly scaly burr. The kernels are very tender and sweet flavored. See also NUTS (*Food Values*).

BEE GLUE, or *Propolis*: a kind of glue which bees use to close up cracks, especially any cracks that admit cold. They sometimes daub it on combs, often spoiling the appearance and ruining the sale of otherwise nice comb honey.

BEEF: is the most important of meats, the chief staple of the butcher and the leading food article in the average household.

It is a curious and in some respects an unfortunate fact that in different parts of the country there are many names for the same "cut," but Diagrams I and II on page 57, adapted from a recent Bulletin of the U. S. Department of Agriculture, illustrate a very widely accepted division of a whole beef and show the relative positions of the cuts in the animal and in a dressed side.

The Neck Piece is frequently cut so as to include more of the Chuck than is represented by the diagram.

The Shoulder Clod is usually cut without bone. The Shoulder (not indicated in the diagram) includes more or less of the shoulder blade and of the upper end of the Foreshank. Shoulder Steak is cut from the Chuck.

In many localities, the Plate is made to include all the parts of the forequarters designated on the diagrams as Brisket, Cross-ribs, Plate and Navel, and different portions of the Plate as thus cut are spoken of as the "brisket end of plate" and "navel end of plate." This part of the animal is largely used for corning.

The Ribs are frequently divided into "first" cut, the first three ribs constituting the choicest "prime" ribs of beef, "second" cut and "third" cut, the last-named lying nearest the Chuck and being slightly less desirable than the former.

The Chuck is sometimes sub-divided in a similar manner, the third cut being nearest the neck.

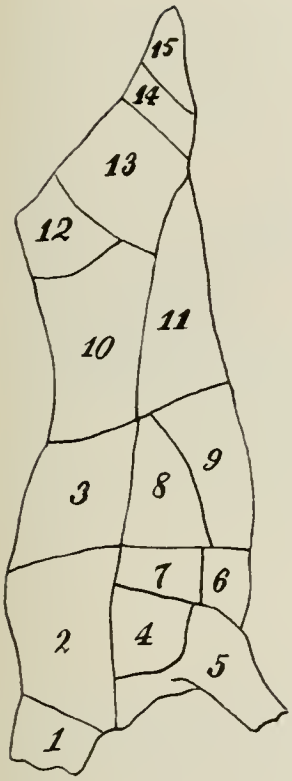
The names applied to different portions of the Loin vary considerably in different localities. With the Hip it is generally known as "hip-loin." The part nearest the

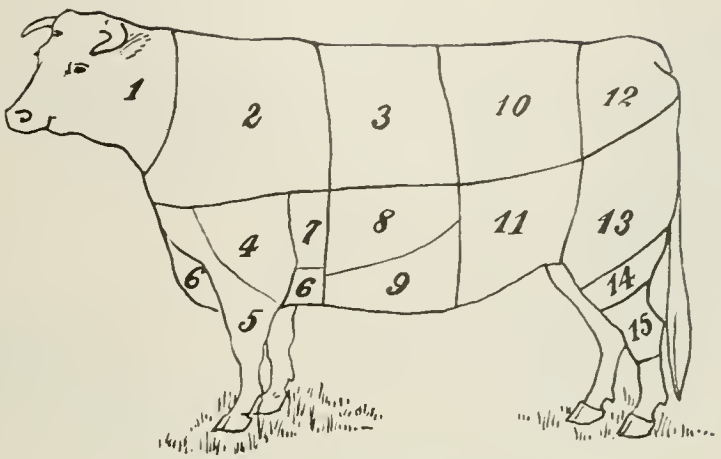
FLAT BONE TOP SIRLOIN

ROUND BONE TOP SIRLOIN

BEEF

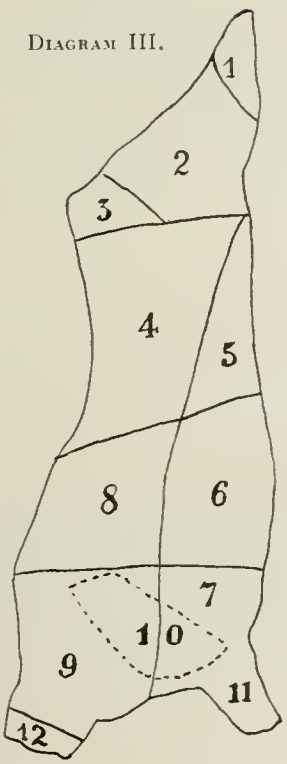
Diagrams I and II.





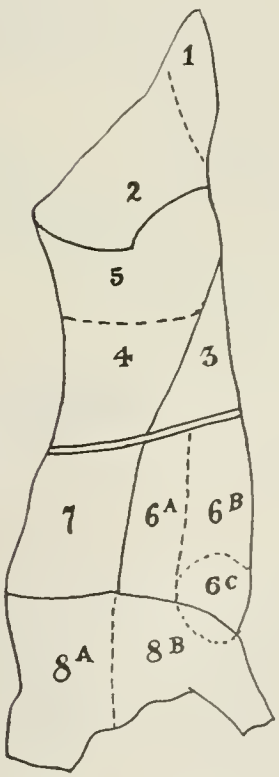
1. Neck.
2. Chuck.
3. Ribs.
4. Shoulder clod.
5. Foreshank.
6. Brisket.
7. Cross ribs.
8. Plate.
9. Navel.
10. Loin.
11. Flank.
12. Rump.
13. Round.
14. Second-cut round.
15. Hindshank.

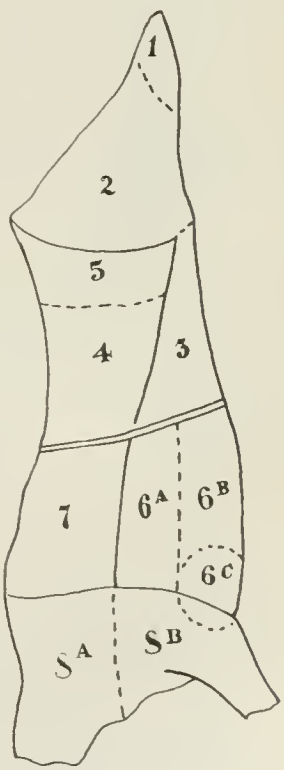
Diagram III.



1. Hindshank.
2. Round.
3. Rump.
4. Loin.
5. Flank.
6. Navel end.
7. Brisket.
8. Ribs.
9. Chuck.
10. Clod.
11. Foreshank.
12. Neck.

Plate.—6 and 7.
Back.—8, 9 and upper part of 10.





Diagrams IV and V.

(See explanation on page 58.)

ribs is frequently called "small end of loin" or "small end sirloin" or "short steak." The other end of the loin is called "thick end sirloin" or "sirloin." Porter-house steaks are cut from the "thick end." The very tender strip of meat known as the "tenderloin" lies under or inside the hip-loin, being thickest at the hip part and gradually tapering off to a very narrow piece at the "small end."

It is not uncommon to find the Flank cut so as to include more of the loin than is indicated in the figures, in which case the upper portion is called "flank-steak." The larger part of the flank is frequently corned, as is also the case with the Rump.

In some markets, the Rump is cut so as to include a portion of the loin, which is then sold as "rump steak."

The portion of the Round on the inside of the leg is regarded as more tender than that on the outside, and is consequently preferred to the latter. As the leg lies upon the butcher's table this inside of the round is usually on the upper, or top, side, and is therefore called "top round."

The lower diagrams, (III, IV) show two other standard divisions—No. III, a method widely accepted by Chicago and Kansas City wholesale butchers, and Nos. IV and V a popular New York wholesale division.

The following table explains the separation shown on illustrations Nos. IV and V.

HINDQUARTERS 1, 2, 3, 4, 5	*Full Round* 1, 2, 3	1—Leg or Shin.
		2—Round: divided into Top, Bottom and Leg Bone.
		3—Flank: of mixed fat and lean, containing Flank Steak nested in "cod" fat.
	"Full" or "Hipand," Loin 4, 5	4—Short Loin: including Sirloin and, on under-side, part of Filet or Tenderloin.
		5—Full Hip: divided into Short Hip (containing the large end of Filet) and Top Sirloin (or "Butt").
FOREQUARTERS 6, 7, 8	6—*Plate*:* divided into (a) Plate End, (b) Navel End, and (c) Breast or Brisket (together with part of 9).	
	7—*8-Rib Cut*:* divided into 3, 4, 5, 6 or 7-Rib pieces and "Chuck End" with remaining ribs.	
	8—*Whole*, or *"Full" Chuck:* divided into (a) Short Chuck, and (b) Shoulder and Breast or Brisket.	

* An 8-Rib Cut and the Plate together are known as a "Piece."

Every normal steer has thirteen ribs. The general eastern rib cut gives eight ribs, an "8-rib roast"—one rib remaining on the hindquarters and four on the chuck —but this division is subject to wide variations at the wish of the purchasing retailer.

See also the four Color Pages of Rib Cuts, Sirloin Cuts, Steaks, etc.—alternate leaves commencing with that opposite page 50.

The best beef is that of a young stall-fed, corn-fed steer. It should be of fine, smooth texture and bright fresh red color intermixed with fine streaks of white fat. It should retain the impression of the finger after it is removed—this is important, as old or tough beef is elastic to the touch. Meat that is pale or deep purple in color, that is wet and flabby, or has a sickly smell, should be carefully avoided.

If the fat (of a healthy specimen) is yellow, the beef may still be of good quality —it is not from a stall-fed animal, but it may be a fine grass-fed specimen matured under specially favorable conditions—but if, as is generally the case, the fat is yellow from oil-cake feeding it has been obtained at the expense of the best flavor of the meat.

BEEF

Cow beef and bull beef are also sold, but they are, at the general age of slaughtering, not in any way comparable to steer beef in quality. Cow beef is a darker red than steer beef. When young it may be more tender than steer, but it is seldom if ever as juicy or fine flavored.

"Boneless cuts" of beef are supplied to retailers throughout the country by several big packing houses. They include tenderloins, sirloin strips, sirloin butts, rib-beef rolls, loin backs, clods, etc. They are especially convenient and easy for the inexperienced butcher to handle and cut up, but some judges assert that, shipped in that manner, the meat deteriorates in flavor as the result of the loss of blood and extractives.

Beef to be at its best should always be aged. To age it properly, a good refrigerator is, of course, indispensable. The temperature should be about 33° to 35° Fahr., and the atmosphere dry—the dryer the better. In cold dry air, beef will ripen and sweeten and may safely be held a long time, whereas, in a warm, moist atmosphere it will become sticky and sour in a comparatively short time. It is important that the temperature should be uniform and not allowed to rise and fall.

One cannot dwell too emphatically on the importance of the proper aging of beef, for cooked fresh beef, even if cut from young animals, is certain to be tough, whereas beef properly aged will be more or less tender, even if cut from animals conspicuous for the number of their years. "Light" or very lean carcases are not though suitable for aging, as the fibre is liable to deteriorate during the process.

Beef is generally acknowledged to be the best flesh-former of all modern foods, as in addition to an average of about 15% to 20% of protein it contains a considerable proportion of fat in an easily digestible form. A diet very largely of meat is not, though, desirable for the average person of sedentary occupation (see FOOD VALUES).

When heads of families realize that there are many cuts of beef equally as nutritious as the sirloin, porterhouse steak and standing rib roast, which can, with very little extra trouble, be served in forms just as palatable and inviting, they will find a wonderful difference in their expenditures for meats. Further, such a revolution in ideas would inevitably result in lower prices for the "choice cuts" also—it is only natural that high prices prevail for them now as the general public thinks that there are only three or four pieces of an entire beef that are fit for the table and all other parts have to be sacrificed at extremely low figures, or utilized by packers for their canned products.

In broiling or frying a steak, the most important point is to put it over a quick fire and expose it on each side for about a minute so as to seal the juices in the meat —then proceed in the ordinary way to finish the cooking.

Similarly, in "roasting" meat, have the oven hot, so that the outside is quickly cooked, to seal the juices inside.

The average American doesn't care much for boiled fresh beef, yet, properly prepared, it is just as palatable as steak. The best cuts for this purpose are the brisket, cross-ribs and rump—the rump is especially suitable for those who prefer lean boiled meat. The principal points to be observed in cooking are: (1) tie the meat up to preserve its shape, (2) put into *boiling* water, (3) add salt, etc., and plenty of vegetables, (4) *simmer gently* until done—don't let it boil and bubble away, and don't overcook it or reduce it to rags.

American prime beef has earned the reputation—abroad as well as at home—of being equal to the world's best anywhere. This is the result of the improvements during recent years in breeding, feeding and shipping. The old-time long-horned Texas

steer, formerly the accepted American type, is obsolete as the result of crossing with high class imported stock and selection of the best grades has been brought to a very fine point; range feeding exclusively has been succeeded by grain feeding scientifically controlled for a considerable time prior to slaughtering, and modern methods of transportation have done away with the necessity for freezing shipments.

Americans are, by the way, the greatest meat eaters in the world. The average consumption per capita here is 175 pounds per annum—and of this by far the greatest percentage is of beef in one form or another. English people average 110 pounds per capita, the French eat only half as much as the English, and the people of Germany, Austria and Italy consume still less.

See also Brains, Heart, Kidneys, Liver, Sausage, Sweetbread, Tongue, Tripe, etc., and general article on Meats.

Beef à la Mode. See Braised Beef.

Beef Bread: the pancreas, frequently retailed as Sweetbread (which see).

Beef Extract. See Meat Extract.

BEEFSTEAK MUSHROOM: one of the best known Tree Mushrooms (which see).

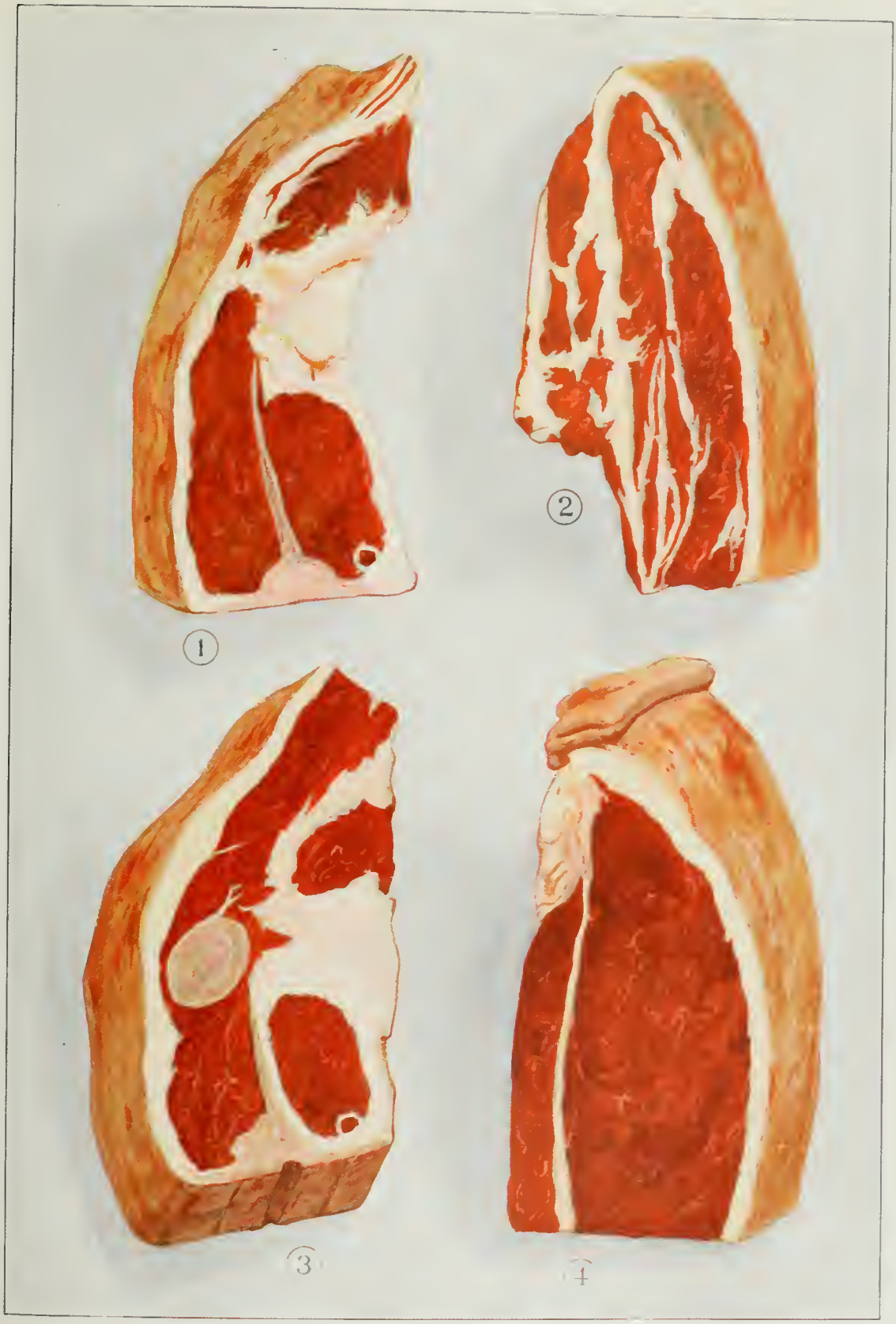
BEER. The word "beer" as now used applies to all undistilled fermented malt liquors excepting those which travel under the special classifications of *ale* and *porter* or *stout*. Its principal constituents are prepared barley, called "malt" (which see) and hops with corn or rice, or both, added in varying proportions. Its flavor and quality depend not only on good materials and correct brewing, but also on the natural characteristics of the water employed—which explains the fact that, with all other conditions equal, some parts of the country enjoy a higher reputation for their beer than others are able to attain.

The history of beer proper dates from the thirteenth century, but its predecessor "barley wine" was drunk in Egypt at least four thousand years ago. Herodotus describes barley wine as made from barley malt, the principal ingredient of modern beer, and history tells that the Romans and later the early Britons, Danes and Germans practiced the part of brewing it and consumed it in large quantities.

In this country, in the early colonial days, every man was his own brewer. This statement is meant literally, for home beer brewing was as much a part of the housewife's duties as the making of fruit preserves. The local government encouraged however the establishment of public breweries and, their product supplementing the increase in the quantity of imported beers as ocean traffic developed, the result was that in time the custom of home brewing died out as unnecessary.

The beers brewed then—and for many succeeding generations—were all of the English style—ale, porter etc.,—much heavier in alcohol than the product we know, darker in color, and more or less "muddy" in appearance. The greater percentage of alcohol was required to keep the liquor in good condition as brewing had not reached the scientific perfection of to-day.

The English style of beers continued in universal use until the introduction of "lager beer" from Germany in the early half of the 19th century. The lighter beverage met with almost instant favor and in a few years the demand for it had revolutionized the brewing industry. Under different titles and brands it constitutes by far the greater part of the beer now consumed in this country.



(1) Extra Porterhouse Steak
(2) Second Cut or Chuck Steak
(3) Hip Sirloin
(4) Top Round Steak

BEEF

Formerly, beer was manufactured almost exclusively of barley malt and hops, and some varieties of both imported and domestic are still so brewed, but the addition of either rice or corn (or both) has become very general for several reasons—principally because of the preference of the general public for a very brilliant, sparkling brew and because of the high prices and limited quantity of high class barley malt produced. To these reasons may be added the fact that much even of high grade American malt contains too many insoluble albuminoids which tend to make the beer cloudy.

The average proportion is 70% malt and 30% rice or corn, or 30% of corn and rice mixed. The rice is, perhaps, preferable to corn as giving a finer, cleaner taste, because of the absence of vegetable oil. The difference is, though, slight as very little oil is left in the corn after preparation.

Only No. 1 white flint corn and fine ground imported Burma rice are used in high grade breweries.

The preparation of the barley malt and the grinding of the corn (to a very fine hominy) are now frequently businesses separate from brewing, because of the magnitude of preparation, separating, cleansing, etc.

The first stages in brewing itself are the crushing of the malt and the prolonged boiling of the ground rice or corn.

The crushed malt is run into the mash "tun" or tank and mixed with warm water. Then the rice and corn, still at the boiling point, are added to it, the diastase of the malt converting the starches of the grain into "sugar" (maltose and dextrin).

The "wort," as the liquid product is then called, is next run off through a filtering apparatus into covered steam-jacketed copper boilers and there boiled, by steam pipes connection, for two or three hours. The hops, in the proportion of about one pound to a barrel, are added to the liquid as soon as it commences to boil. The liquid is next pumped through a hop strainer into the cooling tanks and thence as rapidly as possible through coils of cooling pipes into the ferment tanks. Here yeast is added and fermentation takes place. On the judgment and experience displayed in the preparation and handling of the yeast depends largely the success of the brew.

From the fermenting house the beer goes to the "resting" or aging tanks. The next move, after a rest of generally three months or longer, is the finishing tank, where the finished product is "carbonated" either by the addition of carbon-dioxide taken from the fermenting tanks or of a small quantity of new beer just starting to ferment. Either process furnishes the "sparkle" and effervescence which give beer its attractive appearance. Finally comes the filtering and running into kegs or bottles.

It is the boiling process which chiefly distinguishes beer as we know it from the ancient "barley wine." The boiling preserves the product by the elimination of the albuminoids, etc., and gives it both better appearance and flavor. The hops tend to give the desired bitter and aromatic taste. Bottled beer is further preserved by pasteurization.

The difference in the color of beers is attributable sometimes to local differences in the method of brewing, but more often to the quantity of malt used. As a general thing, a greater percentage of malt tends to make a beer darker and a greater percentage of rice to make it lighter in color. Slight variations may also be due to the difference between light and dark malt, and an especially dark color may be attributable to the addition of 5% to 8% of caramel malt to a dark malt.

The difference between "heavy" and "light" beer in composition, irrespective of color, is generally attributable to the temperature at which the "wort" is made. The

average is 150 to 160° Fahr., the result of adding the boiling grain to the warm, but not boiling, malt mash. A higher temperature produces less sugar and leaves a larger percentage of unconverted grain extracts in the wort—and in consequence the completed beer will be heavy in body or extract but of a low alcohol percentage. A good example of a beer rich in extracts is the dark Bavarian. Of opposite character is the Pilsener kind—which is light in composition, almost free from extracts, but of a much higher percentage of alcohol.

"Brewer's Sugar" or "Commercial Dextrose," a form of glucose, is frequently used in place of part of the usual malt addition, principally from motives of economy when malt is high in price but also because it contains less nitrogenous matter and thus tends to make a clearer brighter brew. The chemical components are closely allied —malt under the action of diastase produces dextrin and maltose, and Brewer's Sugar contains dextrin, maltose and dextrose.

American beer closely resembles the German in composition but it averages a little lighter in alcohol—varying in the ordinary varieties from 3% to 4%, going though in some cases as high as 7%. Some connoisseurs assert that the finest German beers excel any produced in this country, but it may be safely asserted that the average of the products of American breweries is fully equal to the average of those of any country without any exception whatever.

The title "*lager beer*" signifies "store house beer," or beer laid by and stored for some months before use.

Lager beer is distinguished in brewing by being fermented at a much lower temperature than ales. On this account it was formerly made only during the winter months, but the extension of refrigerating facilities in recent years has made its manufacture possible all the year round.

Malt Beer is made solely of barley malt and hops.

Bock Beer is an especially strong variety of German origin but now thoroughly localized here. It is darker in color, less bitter in flavor and stronger in alcohol. It is generally brewed in the winter from the first of the new crop of hops and malt and drunk in the spring.

The goat which is usually associated with "Bock Beer" is attributable to a general misunderstanding concerning the origin of the title. "Bock" means "goat," but the name "Bock Beer" was taken from "Eimbock," the former name of Eimbeck, a Prussian city famous for its breweries during the time of the Reformation.

Stock Beer and *Winter Beer* are, practically, equivalents of *Lager Beer*.

Black Beer or *Dantzig Beer* is a very dark, syrupy brew first made in Dantzig.

Bitter Beer is a name occasionally applied to ALE (which see).

The most noteworthy "temperance" beers which resemble genuine beer in flavor and appearance but which show less than 1% alcoholic component are made in about the same manner and with practically the same ingredients as lager beer, the alcohol being afterwards removed by re-boiling the finished product.

BEESWAX: is the fatty substance secreted by bees in making combs for the deposit of honey. The commercial product is the comb refined, bleached, etc., after the extraction of the honey. It is used in the making of fine candles and tapers, for honeycomb foundation (see HONEY), etc. See also WAX.

BEESWING: a second or pseudo-crust much admired in port and a few other wines, and which forms in them only when kept for some time after the first or true crust has formed. It consists of minute, glittering, floating particles of tartar, purer and freer from astringent matter than that deposited in the first crust.

BEET: after the potato, one of the most important food roots. The small delicate varieties are popular as a table vegetable, both fresh cooked and pickled; the Sugar Beet furnishes nearly half of the world's sugar supply and large quantities of alcohol, and the Mangels and other coarser types are valuable as cattle food.

Beet

For use as a vegetable, beets are generally boiled but some people prefer baking, which gives a deeper color and retains more of the natural juices. The red fleshed kinds are most popular for table purposes but there are several yellow-flesh types which are very fine in flavor and especially sugary to the taste.

Several varieties of beet are grown exclusively for their tops or leaves, the most important of them being *Chard* (which see), the *White* or Sicilian beet and the *Sea* beet.

If stored in cellars, beets should be covered with sand or soil to prevent shriveling.

BÉNÉDICTINE: one of the most ancient of liqueurs in present use, having been continuously made since 665 A. D. It was originally prepared at the Bénédictine monastery at Fécamp, Normandy, but since the French Revolution of 1792 it has been made by a commercial company. It is flavored with a great variety of herbs, seeds, etc. See *Color Page* of LIQUEURS.

BENGAL QUINCE or Elephant Apple: an Indian fruit of the citrus family, with smooth yellow rind and pulpy flesh of excellent flavor. A yellow dye is sometimes made from the rind, and the roots, bark and unripe fruit are locally used for medicinal purposes.

BENZINE: a light oil of petroleum, used in the household for removing grease spots from clothes, etc. It takes the spot out by dissolving the grease. Commercially, it is also employed to dissolve caoutchouc, gutta-percha, wax, camphor, etc. It is very inflammable and all insurance requirements concerning it should be carefully complied with. The title "Benzine" should not be confused with "Benzene," more correctly called Benzol, a very different article, obtained from coal tar.

BENZOATE OF SODA, Sodium Benzoate: a salt made by adding benzoic acid to a hot solution of carbonate of sodium—the sodium benzoate appears on cooling in the form of crystals. Commercially, it is a white powder, slightly sweet and astringent in flavor. It is used to a considerable extent as a food preservative (see PRESERVATIVES).

Commercial Benzoic acid is manufactured chiefly from coal tar and by synthesis, also to a certain extent from rosins, especially that of the Tolu and other South American trees and Benzoin, exuded from the bark of an East Indian tree. It is found naturally in cranberries and some other fruits.

BERGAMOT, *Bergamot Orange,* or *Mellarosa*: a citrus fruit which may be classed as between an orange and lemon, cultivated principally in the South of Europe. It is generally somewhat pear-shaped, with thin, smooth peel, lemon-yellow in color and very aromatic, and greenish, sub-acid and fragrant pulp. The oil obtained from the rind is used in flavoring liqueurs and in perfumery.

BERGAMOT (HERB): a title frequently applied to a family of several different plants used as herbs for their stimulating and aromatic properties, as "Wild Bergamot," "American Horse Mint," etc.

BERGAMOT PEAR: in Europe, the popular name for several choice types of pears.

BERRIES: should be kept in a cool *dry* place. Dryness is absolutely essential. Moisture, even in a cool atmosphere, will rapidly spoil them as it conduces to the growth of mold—and when berries have begun to mold, it is almost impossible to save them.

It is much better to show berries in the window, if protected from the sun, or on a display table in the store, than outside in the street where they are reasonably sure to collect a fine assortment of grit and dirt. Some grocers have become so enlightened that even inside the store they show only a few boxes at a time—just enough to attract attention. The remainder are kept in the cellar or refrigerator until they are needed.

As berries require very careful handling to wash them without spoiling their appearance or flavor, the best advice is to exercise care in purchasing—avoiding those which are too soft or which show sand, etc. Only fresh clean berries should be eaten raw—others are better cooked.

See also BLACKBERRIES, STRAWBERRIES, etc., and *Color Page* of BERRIES.

BETEL NUT: the fruit of a palm cultivated in tropical Asia, noted for its narcotic and intoxicating properties.

BETHESDA. See general article on table and medicinal MINERAL WATERS.

BIFFINS: a special kind of dried apple, flat in appearance and soft to the touch, prepared in large quantities in Norfolk, England. They are obtained by a very slow drying of the fruit and occasional pressing.

BIGARADE or *Seville Orange*: the type chiefly used for preserving, etc. See ORANGES.

BILBERRY. See HUCKLEBERRIES. Also in some sections applied to the JUNE BERRY.

BILTONG: a South African term for strips of the sun-dried meat of antelope, etc.

BIN: a large wooden box or chest with a lid, used for corn, flour, sugar, etc. Also, a compartment in a wine cellar.

BIRCH BEER: a summer beverage made from the fermented sap of the birch. The sap is secured by "tapping" in the spring, a large tree often giving from four to six quarts in a single day. If the holes are properly closed after use, the trees may be tapped every year without injury.

CURRANTS
BLUEBERRIES
BLACKBERRIES

CRANBERRIES
STRAWBERRIES
HUCKLEBERRIES

GOOSEBERRIES
DEWBERRY
RASPBERRIES

BIRCH SUGAR: the evaporated sap of the birch tree, produced in very much the same way as *Maple Sugar* (which see).

BIRDS'-NEST SOUP: a famous Oriental soup made from the gelatinous, mucous substance with which several varieties of Swifts form the lower portion of their nests, building them bracket-fashion on the faces of cliffs. *Kanten* (which see), or Vegetable Isinglass, is frequently used as a substitute for Birds'-nests.

BISCUITS or Crackers: are made nowadays in great variety and, in the majority of cases, of uniform excellence of flavor and ingredients. The result of the improvement in the domestic product during the last few years has been a noteworthy increase in consumption. The American appetite for biscuits is, however, still a long way behind that of some other countries—our annual per capita expenditure is only forty cents for biscuits of all kinds as against nearly three dollars in Canada and a full four dollars in England.

The title "biscuit" is a combination of two French words which mean "twice cooked." In their original manufacture, "biscuits" underwent two separate bakings, the second to evaporate the moisture held over from the first.

Enormous quantities of honey are used in the baking of the modern Sweet Biscuit as it helps to keep the product fresher and softer than when sugar is employed.

The retailer is advised to buy in small lots so as to be sure that his stock is always fresh, and to lay in only those varieties for which there is a reasonably steady demand in his particular neighborhood.

Hard, sweet biscuits are the best keepers.

Excessive paleness is generally considered a defect as it is usually attributable to age or poor baking.

Both retailer and consumer should see that crackers are kept in a warm, dry place —dampness will quickly spoil them. If moisture has deprived them of crispness, they can often be improved by putting in a hot oven for a few minutes.

Bulk crackers should always be kept in boxes as nearly air-tight as possible—those with glass fronts or tops combining display and a fair measure of protection.

"Package" crackers are always preferable to the bulk kind, for the latter can scarcely fail to suffer to some extent from exposure to atmospheric changes and to dust, flies and other nuisances.

BISQUE: "cream" soup of Shellfish. See general article on Soups.

BITTERS: spirits in which bitter roots or herbs have been steeped. Medicinally, they are divided into *"Simple Bitters,"* including such remedies as Dogwood, Gentian and Quassia, which by their peculiar bitterness serve as a stimulant to appetite and digestion; *"Aromatic Bitters,"* including Virginia Snake Root and Wild Cherry Bark, which contain an aromatic principle and are more or less astringent, and *"Special Bitters"* whose main principle is usually Cinchona, the source of quinine, and its several preparations—in small doses acting as *"Simple Bitters"* and in larger as a remedy for malarial affections. "Cascarilla" is the Spanish and South American name for Cinchona and "Calisaya" is one of the best known varieties.

Commercially, Bitters are widely used in this country as an appetizer, with other spirits and water, or with syrup and soda, etc.; in the making of cocktails and various

other "mixed drinks." They are known by special trade names, taken generally from the constituent herb or bark, the place of production or the name of the manufacturers.

BIVALVE. As applied to foods, the term "bivalve" refers to shellfish having two shells joined by an elastic ligament which permits the shells opening (somewhat like the covers of a book—but not to an equal extent) and closing—as oysters, clams, etc.

BLACK ASH: evaporated from the waste lyes of soap making and used in the manufacture of alum and common soap.

BLACKBERRY: the fruit of a bushy rambler, growing wild in the woods and fields, which is sold in large quantities in the early summer months. Cultivation has greatly improved its size and quality in recent years and has extended its fruiting season to the end of September. In addition to its consumption as a fresh fruit, large quantities are used in cooking, made into jelly and jam, blackberry cordial, etc.

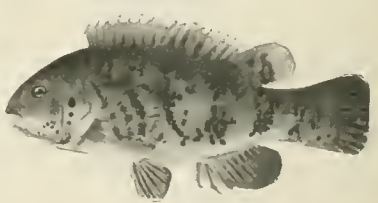
Dried blackberries, principally from the South, are wild berries dried in the sun. The quality is generally poor.

The *Dewberry* is a fruit of the same species, but rather smaller, rounder and more juicy. It grows on a low, creeping bramble, and ripens several weeks before the blackberry proper.

BLACKBERRY BRANDY: is boiled blackberry juice with medicinal spices added and fortified with sufficient brandy to prevent fermentation. It is much used in summer complaints.

BLACKBIRD: originally, the name of a distinct variety of birds, but in this country freely applied in many sections to several birds widely different in family but alike in their black plumage. The only kind that can legally be sold as a game bird is that known as the "Crow Blackbird," which is considered excellent by many lovers of bird meat. Blackbirds were at one time highly esteemed as a food delicacy in England—an historical item that has been perpetuated in the nursery rhyme concerning the "pie" containing "four and twenty blackbirds" which was "set before the king!"

BLACKFISH or Tautog: a North Atlantic fish in season from April to October. It varies in weight from one to fourteen pounds, large specimens measuring as long as thirty inches—these big fish being though very scarce. Its skin is tough and black like an eel's but the flesh is white, tender and of fine flavor.



Blackfish

BLACKING. The principal ingredients of common blacking are bone black, oil, molasses and a little sulphuric acid. There is also a higher grade of blacking in which wax is used instead of molasses. This produces a softer and more durable polish and excludes moisture better than the ordinary article. Blacking should be kept in a dry, cool place.

BLACKSTRAP. See reference in article under heading of MOLASSES.

BLANC-MANGE (from the French *blanc-manger*, "white eating"): correctly, a pudding or jelly made of isinglass, gelatine, calves' foot jelly, etc., and milk. Ground rice, arrowroot, cornstarch, etc., are, however, frequently substituted. Transparent Blanc-Mange, the title then being a misnomer, is a clear, flavored jelly.

BLANCHING: whitening or making white.

In *cookery*, mushrooms, artichoke bottoms, etc., are "blanched" in water prepared by adding a little lemon, butter and salt and bringing to a boil. The term is also sometimes, but incorrectly, applied in a culinary sense to *Parboiling* (which see in article on COOKERY).

In *agriculture*, the stalks of celery, asparagus, etc., are "blanched" by banking earth or putting planks, etc., around them while growing, to keep the sun off and thus prevent them attaining a green color.

BLANQUETTE: a delicate white wine. A special variety of large pear. The French name for white-bait. In cookery, a stew with white sauce.

BLET: a form of decay showing first as rotting spots in fruit such as apples, etc.

BLETTING: a term applied to the change which takes place in hard, sour apples and similar fruits after they have been stored for a considerable time. The first effects are to improve the fruit by making the flesh softer and sweeter, but continued too long the change results eventually in decay.

BLIMBLING: a fruit similar to the *Carambola* (which see) but generally more acid.

BLOATERS: selected fat herring, slightly salted and still more slightly smoked, retailed both from boxes and in cans, domestic and imported. As those in boxes are not intended for long keeping they should be consumed as soon as possible after curing. They are best from October to March.

BLOOD WURST: a large sausage chiefly of pork, with hog blood, etc. See SAUSAGES.

BLUE. See item on BLUING at foot of this page.

BLUEBERRY: a bluish-black berry of the *Vaccinium* family. See HUCKLEBERRY.

BLUEFISH (*See Color Page III* of FISH): a fish found at different periods the length of the Atlantic coast and consequently in season all the year, Florida supplying it during the winter months. It takes its name from the blue color of its skin and the slightly bluish tint of the flesh. It varies in size from half a pound to ten pounds—being occasionally found as heavy as twenty pounds. The very small fish caught during the summer months are known as "Snapper Blue."

BLUE LICK SPRINGS. See general article on table and medicinal MINERAL WATERS.

BLUING or BLUE: used in washing clothes to give them a whiter appearance. It is retailed in both solid and liquid form in many grades. Indigo (which see) is the original form but Prussian blue and aniline dyes are now very largely employed.

Liquid blue is very apt to freeze and should be kept in a warm place or the bursting bottles may entail great damage to other articles in stock.

BOAR'S HEAD: formerly applied only to the head of the wild boar but now to that of any male pig, domestic or otherwise, when served whole. The wild boar, which has a shorter body and longer tusks and snout than the domestic hog and bears a thick hairy coat, is still hunted in Continental Europe, Northern Africa and Asia Minor.

BOB-WHITE. The "Bob-White"—its name represents its call—is generally known as the *Quail* (which see). In some parts of the country it is erroneously called the "partridge" and the "Virginia partridge."

BOCKSBEUTEL, Boxbeutel: a peculiar shaped bottle in which Steinwein and Leistenwein, fine Bavarian white wines, are generally imported.

BOCKWURST: a term applied to various small sausages served with Bock Beer.

BOILING. See sub-head in article on COOKERY.

BOLETUS: the large mushroom imported under the French name of *Cèpes*. See MUSHROOMS.

BOLOGNA: a well-known sausage, originated in Bologna, Italy. See SAUSAGES.

BOMBAY DUCKS: a familiar name for canned Bummaloe Fish (imported from India).

BONITO: a fish varying in size from five to eight pounds, found along the Atlantic coast, generally following the mackerel, which it resembles in scale coloring. It is in season from June to October. Its meat is rather dark.

BORAGE: a garden herb. The young leaves smell somewhat like cucumbers and are used for salads and cooked as greens, etc. One or two leaves or flower spikes are often added to top a punch or wine cup.

BORATED FISH: fish preserved by boracic acid; largely imported from Norway.

BORAX: one of the most useful of chemicals. The world's supply formerly came from Asia, principally Thibet and Persia, but the United States now furnishes a considerable share of it, the largest deposits being those discovered in the middle and latter part of the last century in California and Nevada. The most famous are those of "Death Valley" in California, the borax being generally found in depressions which were probably lakes in prehistoric times. The borax there is generally in the shape of balls, from the smallest possible size to others as large as pumpkins, and usually stuck in clay around the depressions or "marshes"—technically so called though a majority of them have been dry as dust for ages and the others hold water only during the

rainy season. When these balls are broken they show a white crystal interior, which changes to a hard dull grey on further exposure to the air. In other parts, the borax is mixed with sand on the surface and in masses under ground.

In its powdered and refined form and as boric or boracic acid, which is borax decomposed by sulphuric or hydrochloric acid, borax has an extraordinarily wide field of usefulness. It is largely used in the silk and textile trades, in paper making and various other manufactures, as a substitute for and in the composition of soap, in the making of shampoo and other hair preparations, for preserving foods and liquids of all kinds, in the sick room and nursery, for the extermination of all manner of bugs and vermin, etc.

Adulterations were formerly very common but the bulk of the borax sold to-day is pure. To test it, add to the powder a few drops of strong vinegar—if it effervesces, it is not pure. The most commonly used adulterant is bicarbonate of sodium.

BORDEAUX WINES—Red. See CLARET.

BORDEAUX WINES—White: a majority of the white Bordeaux wines exported are produced in the celebrated Graves section of the department of the Gironde.

The cheapest grades are generally marketed here as *Barsac, Bommes* and *Graves;* the next higher as *Sauternes, Haut Sauternes* and *Haut Barsac.* The term "Haut" in this connection means "Upper," the higher sections of the Sauternes and Barsac districts producing wine of better quality.

The most famous variety is the Château Yquem Sauternes—some vintages attain exceedingly high value. The other first "crûs" (growths or districts) are Château Latour-Blanche, Château Peyragney, Château Vigneau, Château Suduirant, Château Coutet, Château Climenz, Château (Bayle) Guiraud, Château Rieussec and Château Rabaut.

The principal differences in the making of such wines as "Sauternes" and "Claret" are, that for Sauternes, "white" grapes are generally employed and that they are left on the vines until the last possible moment, until they are beginning to wrinkle with ripeness, so as to obtain the fullest amount of sugar; that the juice is pressed and removed from the grapes as rapidly as possible to avoid its being colored by the skins, and that, going into the press later in the season, fermentation is arrested before all the sugar has been transformed into alcohol—producing a wine "white" instead of red and sweeter than claret—in which practically all sugar has been transformed. In addition is, generally, a special selection of the grapes used—varieties heavy in sugar, such as Sauvignon and Semeillan, being grown in the majority of the vineyards of the Sauternes district—and, frequently, the addition of a small quantity of sugar-syrup after fermentation.

The bulk of American "Sauternes" is produced in the Pacific Coast range district. Both the Eastern and Southern wine districts also supply a limited quantity, some brands being excellent in flavor and characteristics.

See general article on WINES—*Temperature, Decanting, etc.*

BORECOLE: a variety of cabbage with open leaves instead of head. It is best known popularly as *Kale* (which see).

BOSTON BROWN BREAD: a famous New England specialty. See BREAD.

BOUILLABAISSE: a famous French fish stew. See *Culinary Terms* in APPENDIX.

BOUILLON: clarified broth. See general article on SOUPS.

BOXBEUTEL: a special type of wine flagon or bottle. See BOCKSBEUTEL.

BRAINS: should be bright in color and firm. All kinds are esteemed as delicacies, but beef brains and calves' brains, the latter being the choicer, are the varieties chiefly retailed. In Southern cookery, the preference is generally given to sheeps' and lambs' brains.

BRAISED BEEF or *Beef à la Mode*: generally part of the "round," boiled with carrots and other vegetables cut small. See *Braising* in article on COOKERY.

BRAN: part of the husk or coat of wheat or other grain (see WHEAT) obtained in the process of flour making. Its principal use is as food for live stock but it is also mixed with white flour to make Brown or Graham bread, etc.

BRANDIED CHEESE: old cream-cheese mixed and potted with brandy. See article on CHEESE.

BOUQUET of HERBS: a small bundle or "faggot" of various pot herbs etc., as parsley, thyme, celery, bay leaf, etc., for flavoring soups and stews.

BRANDY: a liquor obtained by the distillation of the fermented juice of fruits. When the word is employed without any qualifying prefix, it is nearly always understood as the liquor distilled from wine, i. e., the fermented juice of grapes. Other brandies generally carry the explanations of their source—as "Cherry Brandy," "Peach Brandy," etc. After grapes, the most important commercial type of European brandy is that made from dried figs.

Red wines yield the largest amount of brandy, but the product of white wines is considered the finer and more delicate.

When first distilled, the liquor, known then as "white brandy," is entirely colorless and will so remain if stored in glass or earthenware. Custom first stored it in new oak casks and these gradually gave it the yellowish color which it had when first marketed. The public obtained the impression that the darker the brandy the greater its strength, and as a consequence a little caramel (burnt sugar) is nearly always added to obtain the now characteristic "brandy color."

The finest brandy in the world is that known as *Cognac*, distilled from fine white wines grown in the vicinity of the City of Cognac, in the department of Charente, in the west of France. The word "Cognac" was for many years, until checked by legislation, so freely used on imported brandies that it is generally taken to be the French word for brandy. The proper equivalent is though *Eau de Vie*, "Cognac" only applying correctly to brandy from the Cognac district.

The genuine Cognac is divided into four principal grades—"Grande Champagne" or "Fine Champagne" (the very finest), "Petite Champagne," "Borderies" and "Bois."

The name "Champagne" was given in Old France to a plain or upland, the subsoil of which is chalk with a thin layer of mould. It is only suitable for vine cultivation.

There are many such "Champagnes" in France, but the two most famous are those around Reims (the source of Champagne wine) and around Cognac. Their soil and subsoil are similar.

The third grade, "Borderies," is so named because it is from the district "bordering on" the "Champagne."

The fourth is styled "Bois," because formerly the country immediately beyond was a woodland (*bois*). It is divided into: *Fins* (fine) *bois; Bons* (good) *bois; Bois ordinaires* (ordinary); *Bois éloignés* (distant).

Cognac as marketed is generally a blending of Grande Champagne or Petite Champagne with Borderies or Bois, the first for flavor and aroma and the second for strength. It is interesting to note that though Cognac is so distinctively a French product, comparatively little of it is consumed in France, the bulk being exported to English speaking countries. In the offices of the largest Cognac firms, nearly 95% of the correspondence is conducted in the English language.

The use of the word "champagne" in connection with brandy is also sometimes attributed to the custom of adding a small quantity of the finest brandy in the last stages of champagne making—the choicest brandy being used, the entire grade attained commercial significance as "Champagne brandy."

"Cognac Vierge" is distilled from wine made from the first pressing of the grapes.

The term *Fine Champagne* is also applied to a blend produced in Languedoc and Roussillon.

Armagnac is another high class French brandy, produced in a district in Southwest France, formerly known as Armagnac—now chiefly within the department of Gers.

Eau de vie de Marc, or "lees brandy," is a distinct grade distilled from the fermented liquor obtained by steeping in water the skins, etc., left over from the pressing of the grapes for wine. It is generally of minor quality, but some varieties, as the best grades from the Burgundy district, are very highly rated.

Care should be taken to avoid adulterated and imitation brandies. Their use is unnecessary as there is a plentiful supply of the genuine, both domestic and imported.

Of the domestic product, that from California is generally rated as the best. The average annual output is in the neighborhood of five million gallons. Of this, about one-third, principally of that made from Muscat grapes, is placed on the market as Brandy, the remainder being used to fortify sweet wines, such as Port and Madeira.

Genuine new brandy is frequently given the appearance and flavor of "age" by the addition of a little old rum, old kirsch, etc.

Brandy is used medicinally as a stimulant and for various other purposes. It is distinguished from the majority of other ardent spirits by its light stomachic properties.

BRAWN: veal or pork trimmings, chiefly the latter, seasoned, spiced and pressed. Sold in bulk, canned and sausage form. See HEAD CHEESE.

BRAZIL NUTS, Cream Nuts, Para Nuts: the fruit of a large tree, native to Brazil and Guiana. The nuts are brown and wrinkled in appearance, triangular in shape, with hard shells and white kernels of very agreeable taste. They grow encased and packed in round seed-vessels (see illustration in first *Color Page* of NUTS), varying in size from that of a cocoanut to some as large as a man's head and so hard that a sledge hammer is required to break them. See also article on NUTS (*Food Values*).

BREAD. It is generally conceded nowadays that the Egyptians were the first to use leaven in the making of bread, though some historians give the credit to the Chinese. From Egypt, the custom traveled to Greece and, later on, the Greeks communicated the process to the Romans, who spread the invention throughout the northern countries during their campaigns.

The allusions to bread in the works of the classic authors are very numerous. Athenaeus mentions no fewer than sixty-two varieties as known among the ancient Greeks and good descriptions of many of them are given. They employed in the making a great variety of grains—wheat, barley, rye, millet, spelt, rice, etc.—combining them sometimes with other substances such as the flour of dried lotus roots and the root of the cornflag, the last named first boiled so as to give a sweet taste to the bread.

In ancient Rome, public bakeries were numerous, the great majority of them conducted by Greeks, who had the reputation of making the best bread.

Wheat bread is the most popular in this country because wheat flour's higher percentage of gliadin makes bread that is lighter than that of other flour. It is also credited with being a nearly perfect food ration. It is not as rich in food value as dried ripe beans or peas, but on the other hand it is in a form which is more generally acceptable as a leading article of diet and is easily assimilated. Its principal defect is the lack of fat, and that is generally overcome by the custom of eating it with butter or milk. It is also somewhat deficient in protein—hence the desirability of supplementing it with meat, fish, etc. (see article on FOOD VALUES).

The exact science of modern bread making is a study of infinite minor chemical possibilities, but its fundamental principles may be outlined in a few words. The flour is mixed with water, a little salt and yeast, and left or set in a warm place to "rise." Later on, it is again kneaded and set to rise a second time. Then, as soon as the dough has risen sufficiently, it is shaped into loaves and baked in the oven. The time thus consumed varies in different processes, according to the quantity of yeast used, the temperature maintained, etc. In large modern bakeries, all or nearly all the work is done by machinery.

The raising of the dough is effected by the growth in it of the yeast fungi. The diastase in the dough, produced by the action of the yeast on part of the soluble protein of the flour, converts part of the starch into a kind of sugar, and the yeast cells, feeding on and propagating in this, produce alcoholic fermentation—convert it into alcohol and carbon-dioxide (gas). The alcohol, which passes away by evaporation, is unimportant but the carbon-dioxide, being distributed all through the dough, raises it as it expands in thousands of little pockets or cells in the dough. When the loaves are placed in the oven, the heat kills the yeast cells and stops the fermentation, but at the same time causes the gas already formed to expand still further, thus again raising the bread. Later, the gas forces itself out, but the air cells still remain, held in place by the stiffening in baking of the gliadin in the dough. The heat also changes some of the moisture into steam, which, being retained in the same or other tiny pockets, aids in the raising process—and the result is the light porous loaf of everyday use.

The brown crust of the baked loaf and much of its pleasing odor, are due principally to the caramelizing of the dextrin and other sugars obtained by the conversion of the starch of the outer surface.

The ordinary bread and rolls of everyday use are made from white flour—obtained by grinding the wheat grain after the bran coat and germ have been removed. For the more "fancy" varieties, milk and water, or milk alone, are substituted for the water in

BREAD

mixing the dough, and in some cases, sugar, butter, lard, etc., are added to it to make it sweeter or richer.

New hot bread is generally rated as a bugbear to any except those of abnormally strong digestive powers—but lovers of good things to eat, who in fear of their lives have refrained from enjoying it, should take a stale loaf, wrap a wet towel around it and set it in a brisk oven for a while. The result will be a hot loaf that tastes *better* than one fresh from the baker—yet won't worry the digestion at all!

For French bread, just dip the loaf in water and set it in the oven without any cloth around it.

Bread should be kept in an air-tight show-case, box or receptacle which must be frequently scalded and aired—and thoroughly dried before using again.

In other countries, under various circumstances, bread has been made from a great variety of grains, vegetables and nuts. Beans, peas, potatoes, etc., produce fair bread if mixed with wheat or rye to prevent sogginess; rice makes bread of pleasing flavor and attractive appearance; the chestnut bread of the Corsican mountaineers is agreeable and healthful and will keep fresh for as long as two weeks, and acorns, mosses and innumerable roots have also served—either alone or mixed with cereals.

Aerated Bread, very popular in London, is made by charging the water used for wetting the dough with carbon-dioxide (gas), then working it up in enclosed iron kneading machines and putting directly into the oven, instead of allowing the gas to form in the dough from the fermentation caused by the working of yeast. The advantage is that bread can be thus made more quickly and cheaply and chemically purer—but, to the American palate, aerated bread has a rather flat taste. An objection in the trade is that owing to its firm crust it does not show its staleness and when taken away by the bakers is sometimes returned again as fresh—to the injury of the grocer, whose customers naturally complain.

Boston Brown Bread is made from rye, cornmeal and graham flour, well sweetened, principally with molasses, cooked by steaming, boiling or baking, and generally served smoking hot. It was originated in New England and is still very popular there. Within recent years it has attained also a considerable sale in other parts of the country, with a growing use in canned form. It is very nutritious but not as easily digested as wheat bread.

Corn Bread has never attained full favor in the North, but in different forms it is an important article of food in the South, where it is consumed as "corn bread," "corn muffins," "Johnny Cake," "Corn Pone," etc.

French Bread, as generally known in this country, is a long narrow loaf—often eighteen inches long and upward—of crisp crust and proportionately little crumb. In France, there are two distinct types of bread. The kind already mentioned, in Paris sometimes reaching a length of three to five feet, is known as "Pain ordinaire" (ordinary bread). The other is "Pain riche" (rich bread)—a finer variety mixed with milk and made in all sorts of shapes (crescents, etc.), generally of small size.

Gluten Bread is made from ordinary flour dough subjected to straining and pressing under a stream of water until most of the starch is worked out, leaving the gluten as

the principal component. Properly made, the result is a light elastic loaf especially suitable for diabetic and other patients from whose diet starch (and its product, sugar) should be excluded.

Graham Bread, or **Brown Bread, Whole Wheat** or **Entire Wheat Bread.** Graham Bread is generally made from flour which contains all of the "bran coat," or at all events the "aleurone layer" (see WHEAT), but its composition varies considerably. As generally eaten nowadays, it is in other respects made in the same way as "white" bread, but the original Graham bread was made without yeast—the few "holes" in it being due probably to some minor fermentation. In flavor it was sweet and fairly palatable, but a good deal heavier than yeast bread. Whole Wheat or Entire Wheat bread is made from flour which consists sometimes of the entire grain ground up; at others, merely a coarse flour containing part of the aleurone layer and grading between "Graham" and "ordinary" flour.

The comparative advantages of "ordinary" or "white," Graham and Whole Wheat breads have been in dispute a long time. Advocates of Graham and Whole Wheat breads claim for them greater nourishing properties—others contend that "white" bread is more easily digested by the average person and that therefore more food value is assimilated by its use, irrespective of the chemical analyses of the loaves. To a disinterested party, the comparative advantages or otherwise seem to be principally a matter of individual taste and digestion. The chemical difference is slight.

Leavened Bread is bread of any kind, raised or "leavened" by yeast or any similar agent.

Honey Bread is ordinary white bread slightly sweetened.

Macaroni Bread has nothing to do with macaroni. It is ordinary white bread made from flour of the prolific variety of hard wheat known as "Durum" or "Macaroni" wheat, now largely grown in the western and southern states. Its advocates claim for it all the advantages of other wheat flour.

Malt Bread is that in which malt extract is added in making, the result being a bread that is sweeter (from the sugars formed by the action of the diastase of the malt) and moister (because of the dextrin formed). There is also an increase in the phosphatic content, etc.

Pumpernickel is a dark German bread of unbolted rye, very heavy and slightly acid, made from fermented dough. Thinly sliced, it is considered a delicacy when made into sandwiches or eaten with the soup course. It is sold generally by delicatessen dealers —made here and also imported, the latter being canned in thin slices.

Rye Bread, as sold in this country, is generally part rye and part wheat flour, sometimes flavored and sprinkled with caraway seeds.

Full rye bread is heavy in character owing both to the general manner of its manufacture and to a peculiarity of the gluten of rye flour, and has an aromatic taste independent of the flavor of the caraway seed, etc., added in baking. It is a very important article of diet in Germany and the principal staple food in Russia.

(1) Pumpernickel
(2) Vienna
(3) Twist
(4) New England
(5) Rye

BREAD

Salt-rising Bread, is bread leavened by the addition to the sponge of a fermented batter of warm milk, salt and, generally, cornmeal. The name is derived from the salt dissolved in the milk to prevent the growth of bacteria in it while it is exposed to the atmosphere awaiting the action of (generally) "wild" yeast (see YEAST).

Unleavened Bread is made without yeast or any other raising agent. Some "dyspeptic breads" are sold in this form, but the most commonly seen type is the "Matzoth," a large round cracker or biscuit, made only of flour and water, eaten during the Jewish Passover—both plain, in place of leavened bread, and cooked in various ways.

Vienna Bread is an American title for loaves made of the same kind of dough used in France for the *pain riche* mentioned in the paragraph on French Bread. It is seldom if ever baked in Vienna in the large loaves seen here!

BREAD FRUIT: the sweet, starchy fruit of a tree of tropical growth. It is round in shape, nearly or quite as large as a man's head and covered with a thick greenish rind.

The natives generally gather it when the starch is in a mealy condition, then peel it, wrap it in leaves, and bake it by placing between hot stones. They also preserve it by allowing it to putrefy in watertight pits, the result being a mass resembling soft cheese, which, when used, is baked in the same manner as the fresh fruit.

For Northern tables, it is best prepared by scooping a hole in the top, filling with butter and baking. Another method is to boil the entire fruit until tender, then peel, slice and serve with butter sauce. It resembles sweet potato in flavor and texture.

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Gathering Bread Fruit, Panama

BRETZEL. See PRETZEL.

BRIE CHEESE. See CHEESE.

BRIMSTONE. See matter following title of SULPHUR.

BRINE: water in which salt has been dissolved until it will not take any more. It is used for preserving meats, butter, etc. When employed for meat, saltpetre is generally added to retain or enhance the desired red color and a small quantity of sugar or molasses is sometimes included to give a sweet flavor.

Brine is best kept in kegs made of oak or other hard timber. Meat should not be left in it longer than two months without boiling and skimming the brine, as the latter

is liable to acquire poisonous qualities. After re-boiling, more salt must be added to bring its strength up again.

In country districts, brine is used over and over again, as old brine containing meat extract is said to take less from meat put in it than fresh brine. It is, though, scalded, skimmed and strengthened after each batch.

BRIOCHE: is, strictly, a slightly sweetened rich bread or very plain cake, but, in general usage, the title is applied to a bun with syrup poured on it. "Fancy" brioches have a centre filling of cherries, pineapple, etc., mixed with liqueur.

BROCCOLI: a variety of the common cabbage produced by cultivation. It is very similar to the Cauliflower, but more highly colored. It is not grown as much as formerly, as Cauliflower is now in the market nearly all the year.

BROILING. See suggestions on this subject in general article on COOKERY.

BROOM CORN: a plant of the same variety as Kaffir corn and sorghum, native to the East Indies, but now cultivated in both this country and Europe. It is said that the American industry is due to Benjamin Franklin, who picked one seed from a whisk brought to Philadelphia by a lady and planted it. It differs from other plants of the same species in having seed heads with longer, straighter and stronger branches or straw. The Standard plant gives the large heads used for carpet brooms, etc., and the Dwarf those made into whisks, etc.

BROOMS: are generally made of broom-corn, the seeds being combed out by machinery. The handles vary from the cheapest to the most expensive woods. For their quality, brooms depend not only upon their material, but upon the way they are put together. They should be securely fastened and wrapped with from two to six ties of twine or wire—the more the better. The corn should be clean, tough, and regular in appearance.

To clean brooms, dip them in hot soap and suds—it can be done on wash days. The life and flexibility of the broom will be improved and the carpets will be cleaner.

BROSE: a kind of porridge made by adding boiling water, milk or broth to oatmeal, or barley or other meal and mixing by stirring. It is named according to the liquid used as a basis—as "water brose," "beef brose," etc. *Athole Brose*, often used in Scotland as a remedy for a sore throat, is made of oatmeal or honey and whiskey. It takes its name from the town of Athole.

BROTH: a liquid or clear soup obtained by boiling or steeping meat, poultry, game, shell-fish (as clams, etc.) in water, generally with the addition of vegetables or herbs, followed by straining. If obtained at a low temperature, it may contain a considerable percentage of nutriment, but, as generally made, it is principally valuable as a stimulant. Clarified broth is also known as *Bouillon* and *Consommé* (see SOUPS).

Broths have especially high value in the treatment of invalids, convalescents and others with delicate stomachs. They are nowadays agreeably diversified by using a variety of distinctive vegetable and other flavoring ingredients—as "celery broth," "tomato broth," etc.—and are so retailed in bottles and cans. See also MEAT EXTRACT.

BROWN BREAD: a term popularly applied to the various forms of *Graham* and *Whole Wheat* bread. See BREAD.

BRUSSELS SPROUTS: one of the numerous special varieties of cabbage, cultivated in Belgium since early in the thirteenth century and now grown in every temperate climate. It is distinguished by its long stalk to which are attached a number of miniature cabbages, each an inch or so in diameter, which in the best varieties are when raw nearly as firm and hard as the stalk itself, but when cooked are as tender as fine cauliflower and possess a very delicate flavor. The chief season is from September to January. The outer skins should be peeled off before cooking and boiling should be continued only long enough to make the "Sprouts" tender—their best qualities are lost and they become watery and mushy if overcooked.

BUCKWHEAT (*See Color Page I of* GRAINS): originally styled "Beech-wheat" because the grain presents a triangular shape resembling that of the beechnut. It is known in France as "Blé Sarrasin" because report says that it was brought to Europe by the Crusaders. The plant, hardy and very rapid in growth, is raised in this country chiefly in Pennsylvania, New York and the New England states.

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Buckwheat in blossom on a Pennsylvania farm

Buckwheat flour is very popular for batter cakes, especially in cold weather. Unmixed, it is dark in color and of a rather rank bitter flavor, but this is generally modified by mixing with wheat "middlings"—the combination making dough that is lighter and sweeter, and cakes which brown more rapidly on the griddle.

In buying Buckwheat flour, small, frequent purchases are best. It should be kept cool and well covered as it is much sought by insects.

BUFFALO BERRY: a fruit resembling the barberry, popular in the West, where it is used in any manner suitable for currants. Its name originated in the old-time custom of serving it as a sauce with buffalo meat.

BUFFALO LITHIA. See MINERAL WATERS.

BUN: a well-known class of light sweet cakes of small size and generally round shape.

See CROSS BUNS, BATH BUNS, etc.

Buffalo Berries

BURDOCK or Gobo: a vegetable native to Japan and in general characteristic similar to the common wild Burdock. Its young roots are variously prepared.

BURGUNDY WINES: take their name from the ancient province of Burgundy, France. They are much "heavier" than Bordeaux wines and contain a considerably greater alcohol percentage. The best varieties, those produced in the hilly lands between Dijon and Chalons in the department of Coté d'Or, rank very high in the esteem of connoisseurs and are often recommended to invalids as a stimulating and highly tonic beverage.

Burgundies are divided into two principal classes—"red" and "white," the red being generally the choicer. The chief types are sold both "still" and "sparkling."

Red Burgundies are subdivided into three classes. The most famous, those of CLASS I, are *Romanée Conti*, *Chambertin*, *Clos de Vougeot*, *Richebourg* and *La Tâche*—varying in retail value, according to vintage, etc., from one to ten dollars a quart, the last-named being for a famous old vintage of Romanée Conti. The word "clos" means literally "enclosure" and hence "locality" or "vineyard."

With the exception of the CLASS I varieties and a few examples of CLASSES II and III, the bulk of the Burgundy imported into the United States is marketed under the name of the commune, or district, of production—as *Beaune*, *Corton*, *Nuits*, *Pommard*, *Volnay*, *Vosné*, *Vougeot*, etc.

Prominent among the lower grade, lighter red varieties are *Macon* and *Beaujolais*.

Though "white" Burgundy as a class is not as highly considered as red Burgundy, the best vintages of one variety, *Montrachet*, which resembles very fine Rhine Wine, are world-famous. Other excellent white Burgundies are *Meursault* and *Chablis*, the latter in varying qualities from quite ordinary to choice.

High grade Burgundies will keep from twenty to thirty years, and sometimes longer, often greatly improving with age. The lower grades are best at from five to ten years.

Burgundy should never be served as delivered from the merchant as it requires a considerable time, two or three weeks at least, to settle after being disturbed. It should be drunk at about the temperature of the average dining room or a trifle warmer. It should never be iced. Old Burgundies require care in decanting to be enjoyed at their best—see general article on WINES.

BURNET or Pimpinel: a garden herb, the young leaves of which are used for salads. They resemble the cucumber in flavor.

BUSHEL. See tables of *Weights and Measures* in APPENDIX.

BUTTER: as a food dates back to the time of the ancient Jews, but by the Greeks and Romans it was used only as an ointment and even now it is largely sold for that purpose by apothecaries in the countries bordering on the Mediterranean.

The greater part of the butter sold by merchants to-day is that made by creameries and the result of this centralization has been to improve greatly the average quality and to establish uniformity so that varying qualities may be intelligently graded.

By the old-fashioned method, cream for butter making was obtained by allowing the milk to stand from twenty to thirty-six hours, the cream which rose to the top being removed when sufficiently "ripened" or soured.

By the creamery method, the cream is generally separated from the whole milk while it is still sweet by running it through specially designed centrifugal separators. It is then treated by the addition of pasteurized skim milk, previously curdled by the addition of "pure cultures" (see BACTERIA), in order to bring about the lactic fermentation essential to a butter of good flavor. If the churning is to proceed at once, which is preferable, from 20% to 30% of the "starter" is added, but if time is allowed for ripening, an addition of about 5% is sufficient. Butter made from separator-cream, untreated, is not "butter" in the true sense of the term—it is better described as an emulsion of butter-fat.

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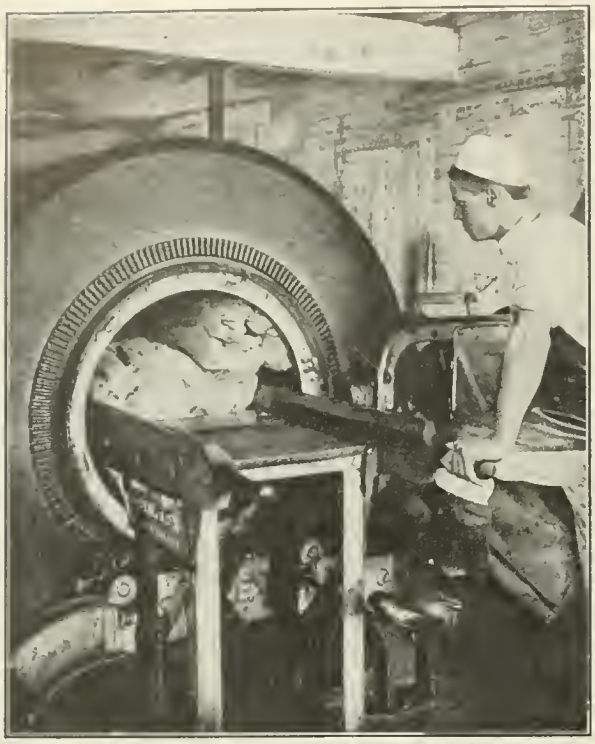
Cream Separator in operation

The great majority of the butters of commerce show a water content between 12% and 16%. U. S. "Standard" butter contains not less than 82.5% of milk fat.

Denmark has for years held the reputation of producing the finest butter in the world. It can be found all over the world in shops where luxuries are sold. In South America, in the East and West Indies, in India, Egypt and in tropical countries generally, epicures pay $1.00 a pound for it in tins of one, two and three pounds' weight. No other country has been able to produce butter that will stand changes of climate so well. Its excellence is due to the efficiency of the government system for controlling the output. Almost equally good results are obtained by the regulations of the Cork Market, Ireland, and by government control in New Zealand. Improvements in creamery methods and conditions promise to give equal reputation to the United States product before long.

More than ordinary care is required if a merchant wishes to establish and maintain a reputation for selling good butter. In the first place, it generally pays to buy grades a little choicer than that of the average market— a half cent or a cent a pound additional often means something quite a little choicer than the regular run—and particular customers are seldom averse to paying a cent or two extra for especially fine butter. Whether or not this is done—it is of course not advisable in every neighborhood—it is very poor policy to charge higher than the market value of any grade. Not one person in a thousand can judge the value of coffee, for example, with any degree of accuracy, but a big percentage have keen noses and palates wherewith to discriminate in the matter of butter. It is very easy and very damaging to get a reputation for selling poor butter.

A retailer should know how to test butter both by taste and smell. Many merchants depend on only one or the other of these senses and as a result they often find themselves at fault in their purchases. This is particularly true of the dealer who buys by taste and is addicted to the use of tobacco or liquors. At times, his sense of taste may be keen enough to discriminate in a remarkable manner, but if he has recently been smoking he will find that it cannot be depended upon. Hence it is wisdom to cultivate both taste and smell to a point where, if one fails, the other can be relied upon. The expert buyer generally tests first by smell, breathing it well



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A modern churn which first converts the ripened cream into butter and then thoroughly works and salts it

back into the nose, then by taste and finally by allowing a little to melt in the mouth and letting the flavor expand up through the nostrils—this last test to determine its keeping qualities.

Butter to be especially avoided is that which is "lardy," "oily," or "woody" in flavor. It should neither be oily nor "dry" in appearance, nor flecked, cloudy or streaked. There should be no holes or crevices in it—as these enclose moist air and favor fermentation. When broken, it should show a rough fracture—if it breaks smooth, it is deficient in "grain" —which in a majority of cases stands for richness of quality. When pressed, the moisture which exudes should be quite clear—if it is milky, it possesses inferior keeping qualities. The highest prices are paid for butter hand-worked, unsalted and very dry—under 11% moisture.

In buying by tub, it is well to verify the weight of butter obtained, instead of depending only on the classification of the tub as "5 lb.," "10 lb.," etc.

"Renovated" or *"Process"* butter is that produced by working over low grade or slightly deteriorated butter, by first melting and settling it, then skimming off froth and scum and discarding the curd and brine settled, freshening by strong currents of air, mixing in fresh milk inoculated with bacterial cultures, churning and then rapidly cooling. The butter is then drained, salted, worked (to remove the excess of milk) and packed or made into prints. In the hands of a reliable manufacturer, who refrains from using improper materials, the processing of butter is a distinct advantage to the food supply and the product is very similar to "real" butter. As, however, there are differences in the nitrogenous components it should never be sold or represented as fresh. In several states such sales and representations are prohibited by law.

An easy test to distinguish between fresh butter and "process butter," and also oleomargarine, is to boil a small amount, stirring thoroughly two or three times. Process butter and oleomargarine will boil noisily, sputtering more or less—like a mixture of grease and water—but will produce little or no foam. Genuine butter on the other hand boils with less noise and produces an abundance of foam.

To distinguish between process butter and oleomargarine, melt a sample and note the odor—in process butter (and fresh butter) the "butyric acid" smell will be very noticeable, but it is absent from oleomargarine, a "meaty" odor taking its place.

Butter is now generally classified as Creamery, Process, Factory, Packing Stock and Grease Butter—defined by the N. Y. Mercantile Exchange as follows:

Creamery:—Butter made in a creamery from cream separated at the creamery or gathered from farmers.

Process:—Butter made by melting butter, clarifying the fat therefrom and re-churning with fresh milk, cream or skim milk, or by other similar process.

Factory:—Butter collected in rolls, lumps, or whole packages and reworked by the dealer or shipper.

Packing Stock:—Original farm butter in rolls, lumps or otherwise, without additional moisture or salt.

Grease Butter:—All classes of butter grading below No. 3 Packing Stock.

Creamery, Process and Factory Butters are, in the New York market, graded as "Special," "Extra," 1st, 2nd and 3rd. Packing Stock is graded as 1st, 2nd and 3rd.

The very choicest butter is thus Creamery Special.

The word "Special" as applied to any of the three mentioned classifications is defined as requiring 90% of the butter so graded to conform to the standard, and the remaining 10% to be fully up to the "Extra" grade, the quality just below "Special."

Following are the Standards of "Special" grades of butter:

Flavor—must be fine, sweet, clean and fresh, if of current make; and fine, sweet and clean, if held.

Body—must be firm and uniform.

Color—a light straw shade, even and uniform.

Salt—medium salted.

Package—sound, good, uniform and clean.

Equally important with proper selection, is the care of butter after it reaches the store. A separate refrigerator should be reserved for it as it readily absorbs the odor of other articles, thereby losing its own delicate flavor and often acquiring a most disagreeable odor and "twang." Meats, cheese and some fruits, as cantaloupes, pineapples, etc., are especially detrimental. The refrigerator must be kept thoroughly clean, as otherwise it will itself spoil the flavor—and pine wood in all forms should be kept away.

In the sale of butter, clerks should be instructed to handle it as carefully as possible. In cutting tub butter, the aim should be to avoid "mussing" or mangling it—a clean cut slab is much more pleasing than when half of it looks like a collection of odds and ends.

Wooden butter dishes are not used as much as formerly, but where they are in favor it is advisable to wrap the butter in waxed paper first. The more popular method now is to wrap in waxed paper, then in ordinary wrapping paper.

If butter is ladled, all the implements used should be scalded at least once a day, and kept in fresh-made brine.

When butter becomes rancid, it is due to the formation of Butyric acid. A fair measure of freshness can be obtained by thoroughly washing it with fresh milk, which readily absorbs Butyric acid, and then with fresh water to remove the milk, so that it will not sour in the butter.

All this care on the part of the retailer is, however, often upset by the customer's lack of care after purchasing. Whenever possible, customers should be advised to keep butter free from contaminating influences. Very few households can enjoy separate refrigerator compartments for butter, but every one can have a covered china or earthenware vessel in which to keep it—then, if the refrigerator is kept scoured and dry and the vessel clean, scalded before use, and always covered, there is a reasonable chance of the butter retaining its purity unless the other articles in the refrigerator have very strong odors.

If a customer has no jar, the best advice is to keep the butter always *thoroughly* wrapped in the waxed paper in which you deliver it.

A good refrigerator and a plentiful supply of ice are, of course, desirable for keeping butter, but care along the lines mentioned is to so great an extent the essential point, that butter will stay fresh and pure for a reasonable time without either refrigerator or ice if kept in a dry, clean, covered vessel set in a cool place—the butter under such circumstances being preferably kept wrapped in waxed paper inside the vessel. A damp or "musty" room—or its vicinity—should be carefully avoided as that odor has as close an affinity for butter as any other.

Where such advice can be given without offense, it is well worth while imparting it, with a view to avoiding the trouble so frequently caused by customers, generally in perfectly good faith, bringing butter back as "bad" which had left the store in good condition.

The natural color of the best creamery butter throughout the greater part of the year varies from almost white to a delicate light yellow or cream—it is only in the spring when the cows are first turned out to pasture that it naturally presents a really yellow color. The average consumer, however, expects butter to have a good bright color all the year round—and in consequence nearly all butter is brought up to that appearance by the use of various coloring additions. The colors used are chiefly those derived from vegetable sources, as annatto and carrot juice.

In contrast to the general taste, there has developed in the larger cities a considerable demand among the customers of high class stores for un-colored and un-salted butter—variously known as "Fresh," "Sweet" and "French." Some of the French stores of the metropolis and elsewhere have always handled this for their patrons, but the present sale to a large number of families of other nationalities and to many high class hotels and restaurants is of comparatively recent origin.

The perfumed butter used in Paris is made by taking pats of "fresh" or unsalted butter and placing them on a layer of some variety of flowers, according to the perfume desired, a piece of muslin being laid between the butter and blossoms. Another layer of flowers is placed above the butter and then ice is added.

BUTTERFISH (*See Color Page III of* FISH): a fish varying in weight from four to the pound up to three-quarters and one pound each, found principally along the northern Atlantic coasts. In appearance it suggests the pompano. It is most plentiful during the summer and fall.

BUTTERINE: an artificial butter composed of beef oil, neutral lard, etc. See article on OLEOMARGARINE.

BUTTERMILK: the liquid which remains after the separation of butter from cream. It is generally a by-product of butter manufacture. When produced under sanitary conditions and drunk fresh, it is not only exceedingly agreeable to many palates, but is very nutritious, as it contains all the cream nutrients excepting the fat. In Scotland and Ireland, it is consumed in enormous quantities as an accompaniment to porridge and potatoes, and its use, principally as a beverage, has in the last few years been greatly extended in this country.

A pint of buttermilk of average richness contains about as much nourishment as $2\frac{1}{2}$ ounces of beef. As a cheap source of protein, which comprises nearly half of its

BRUSSELS SPROUTS

percentage of food value, it is even more deserving of notice than skim milk, to which it is very similar in chemical components—though generally regarded as inferior, it ranks higher in nutriment value. It is an especially valuable addition to the dietary when there is a deficiency of other nitrogenous food and therefore combines well with a farinaceous diet, supplying the protein lacking in cereals, etc. (see FOOD VALUES).

Though buttermilk contains as a rule very little milk fat, it is seldom entirely free from it, and it frequently happens that where milk is abundant and rich a considerable quantity of fat is allowed to remain in the buttermilk in the form of butter. This increases its food value, but a careful skimming may be necessary if the milk is intended for special dietary.

When made from fresh whole or partly-skimmed milk with selected or cultivated lactic ferments or bacteria, buttermilk contains high medical virtue—tending to prolong life by preventing decomposition of food in the bowels and avoiding the abnormal formation of gas, uric acid, toxins and other undesirable products of excessive intestinal fermentation. This result is produced by the action of the serviceable bacteria which flourish, to the exclusion of undesirable micro-organisms, in the lactic acid into which a considerable part of the sugary food elements is converted by the ferments introduced into the milk. The only important difference between buttermilk thus prepared and the creamery product is that the natural process is accelerated and the introduction of other and undesirable bacteria can be prevented.

Buttermilk is best kept in glass or china vessels as the lactic acid is liable to affect other receptacles.

BUTTERNUT (*See Color Page I of* NUTS): the oily nut of the North American White Walnut, ripening in September. It is of the same order as the ordinary Black Walnut but is longer, and has an exceedingly rough shell. The meat is rich, oily and agreeable in flavor. When young and tender, it makes a delicious pickle.

BUTTON MUSHROOM: the *Mousseron* of French importations. See MUSHROOMS.

BUTYRIC ACID: the oily acid which under certain conditions forms in butter and gives it the smell and flavor generally described as "rancid." Commercial Butyric Acid, a colorless liquid, is obtained from numerous sources.

BUTYRIC ETHER: a fragrant compound-ether obtained by treatment of salts of butyric acid, employed in the manufacture of several artificial fruit extracts, particularly apple, melon, pineapple and strawberry.

CABBAGE: the vegetable which probably comes next to the potato in the quantity consumed. It is found in more than seventy varieties, of which several are of sufficiently distinct form, both in appearance and quality, to be generally known under special titles, as Broccoli, Brussels Sprouts, Kale, Kohlrabi and Savoy Cabbage (which see under their respective heads). The varieties of the common cabbage may be grouped in two classes, the Early and Late, according to their time of ripening.

Only cabbages that are crisp and of bright color can be considered desirable. If to be kept for any considerable length of time, they require a

temperature near freezing—the average cellar is too warm to answer the purpose. If stored in barrels, they are best placed with the roots uppermost.

In places where cold storage is not available and circumstances warrant the trouble, cabbage of any kind, and several other vegetables, as celery, can be kept fresh for a considerable length of time by cutting so as to leave about two inches of stem below the leaves, scooping out the stem for from an inch to two inches, splitting the core of the vegetable to prevent sprouting, then suspending by a cord attached to the stem and each day filling the hollow part of the stem with fresh cold water.

A pinch of bi-carbonate of sodium added to the water in which cabbage is boiled will retain the green color of the leaves. It is good policy to throw away both the unconsumed portion and the water in which it was cooked.

Red Cabbage is a favorite for pickling.

See also articles on SAUERKRAUT and SLAW or "Cold Slaw."

CABERNET: wine, both "white" and claret style, domestic and imported, from the Cabernet grape, the variety principally cultivated in the famous Médoc section of France. The fruit is fragrant and yields a delicate, brilliant, rather light-colored wine.

CACTUS: an order of curious, usually prickly, generally leafless plants, with fleshy stems or bodies—a number of them bushy, some resembling telegraph poles in general appearance and conformation, others of round or oval shape suggesting huge spiny melons, etc. Many types are capable of extensive growth in regions so arid as to be otherwise unproductive. A majority of the most important edible-fruit varieties are included in the *Opuntia* genus, the fruits being best known in this country under the title of PRICKLY PEARS (which see). Among other interesting examples are the BARBADOS GOOSEBERRY, MEXICAN STRAWBERRY and STRAWBERRY PEAR, and the fruit of the MELON THISTLE, all of which are described in their alphabetical positions.

CAFFEINE: the stimulating principle of coffee. It is chemically identical with the theine of tea, kola, etc.

CAKE: is made in many varieties in modern bakeries, from the very plain to the extremely "rich"—as the heavier kinds of fruit cakes. If of sound materials and properly baked, it is as nutritious and wholesome as it is agreeable to the palate. Some people find the rich types difficult of digestion, but many more would be able to enjoy cake without any unpleasant after-effects if they were to treat it as essentially a part of the meal—to be eaten in place of some other portion thereof—instead of looking upon it as an "extra" and thus throwing additional work on a stomach already loaded with other foods.

To keep cake fresh, put an open vessel of water in the show-case. To keep flies away, sprinkle cloves in it. Tin is the best receptacle.

CALCIMINE or Kalsomine: a superior form of Whitewash. A mineral and glutinous composition made in white and colored form for tinting and decorating plastered and sand-finished surfaces, such as ceilings and walls.

Calcimines vary greatly in quality, but are all furnished in powdered form requiring the addition only of hot or cold water.

CALECANNON or Kolcannon: a dish common to some parts of Ireland, which consists generally of a bit of salt pork with potatoes, cabbage and seasoning.

CALF'S BRAINS: a meat delicacy in great popular demand. See BRAINS.

CALF'S-FOOT JELLY: is made of gelatine extracted from calf's-feet. Sweetened and flavored with sherry, etc., it is served as a dessert. It is also a favorite item in convalescent dietaries.

CALIPASH, CALIPEE: the upper and lower parts of turtle-meat. See TURTLE.

CAMEMBERT: one of the most popular of French cheeses. See CHEESE.

CAMPHOR: is a tough and crystalline stearoptene from the wood of the Camphor Laurel or Camphor tree, native to China, Japan and Borneo. It is generally obtained by chopping the wood into fragments and placing in a "still" with a certain quantity of water, the steam generated carrying the camphor off in vapor. After various processes, it resolidifies as a yellow-brown, semi-transparent mass, which is then refined and pressed into various shapes.

In addition to its household use in wardrobes and clothes-trunks to keep away insects, camphor is employed in the manufacture of celluloid and explosives, to make the stars and fire of the pyrotechnists, by the varnish-maker to increase the solubility of copal and other gums, etc. Mixed with six times its weight of clay and distilled, it suffers decomposition and yields a yellow, aromatic volatile oil, smelling strongly of thyme and rosemary, which is much used to adulterate some of the more costly essential oils and to perfume fancy soaps.

Synthetic camphor is now made from fine white turpentine. It is more resinous than gum camphor and less aromatic, but possesses the same general merits and qualities and is equally good for medicinal and most commercial purposes. Its sale commercially depends upon the comparative market values of gum camphor and turpentine. If turpentine is high in price and gum camphor low, the synthetic is not able to compete with the natural product.

CANARY SEED: the seed of the canary grass, native to the Canary Islands, but long ago naturalized in many temperate climates. Its principal use in this country is as bird food. It is generally mixed with rape and other seed that cheapen it, but the straight Canary seed is decidedly preferable. It should be kept in a dry place and away from vermin.

Industrially, a flour made from Canary seed is employed in the manufacture of fine cotton goods and silk stuffs, and in the Canary Islands, Italy and North Africa it is used as food.

Canary Seed

CANARY WINE: a gold colored wine resembling Madeira, made in the Canary Islands, principally on the Island of Teneriffe. When new, it is rough and unpleasant, but after two or three years it becomes mild and very agreeable. It was at one time a very fashionable wine.

CANDIED FRUIT. See article on CRYSTALLIZED FRUIT.

CANDIED PEEL: the crystallized rinds of lemons, citrons, etc. See CITRON.

CANDLES: are now generally made by molding in metal forms, though some grades, notably church candles, are still made by the dipping process. The materials chiefly employed are stearin, paraffin and beeswax, separate and in various combinations and compositions. For decorative purposes they are frequently colored with aniline dyes.

Tallow candles, formerly the most common, are now seldom sold except in frontier districts and other remote parts—they are very easily and cheaply manufactured but burn away so much more rapidly that other kinds are really less expensive.

Stearin candles are also known as "*Adamantine*" candles because they are capable of sustaining a very warm temperature without bending. They give excellent service and are deservedly popular. Stearin is obtained from tallow by separating it from the oil and glycerine. Its crystalline structure at first rendered manufacture difficult as the crystals contracted when the candles cooled after molding, but this has been remedied by mixing in a little paraffin.

Paraffin, a petroleum product which is largely employed to-day, makes a clear candle resembling wax and gives a good pleasant light. A little stearin is usually added as the pure paraffin is apt to bend or droop when warm.

Beeswax candles are employed principally for church and decorative purposes.

Spermaceti, from the head of the sperm whale, was formerly an important candle material but is now practically out of use.

Hotel candles are merely ordinary candles of about half the usual size.

Modern candles burn with a quiet, steady flame. If they flare, flicker and gutter, it is because they are exposed to drafts. The cotton wicks now used are braided and are chemically so treated as to be self-consuming—snuffing them is no longer necessary.

Although petroleum, gas and electricity are improved factors in artificial lighting, candles are still used in large quantities on account of their adaptability for producing a light promptly under all conditions, and, chiefly, because they have the advantage over all other forms of lighting in being both portable and absolutely safe.

CANDY. U. S. "Standard" Candy is defined as a product prepared from a saccharine substance or substances, with or without the addition of harmless coloring, flavoring or filling materials, containing no terra alba, barytes, talc, chrome yellow or other mineral substances or poisonous colors or flavors or other injurious ingredients.

A candy department, if properly managed, is generally a source of good profit, and advertising, for the grocer. To handle it to advantage, however, proper facilities—in the form of glass show-cases, etc.—are absolutely necessary. A messy looking, fly-attracting candy-counter is worse than none at all.

It is usually profitable to stock three distinct lines—(1) "Penny" goods for children, (2) moderate price candies for the average customer, and (3) "fancy" candies.

All kinds should be handled in small lots so as to ensure a speedy turnover and, consequently, fresh goods at all times. They should be kept from exposure to heat or dampness. If the demand warrants a large stock, as much as possible of it should be kept in a special cooling room or cabinet of moderate temperature.

A good supply of pretty boxes, lace paper, wax paper, candy tongs, etc., is a great stimulant to custom. A box of candy fixed up with all such little fancy extras appeals with special force to the feminine appetite—and pocketbook.

The materials principally used in the manufacture of candy are sugar, chocolate, cocoanut, nuts, raisins, corn syrup, fruit pulps, cherries, gum arabic, cooking starch, molasses and licorice. Any desired tint can now be obtained by vegetable colors or harmless coal-tar dyes (see COLORS).

Candies may be classified according to their nature or method of manufacture as follows:

HARD BOILED CANDY: candies cooked to a high degree of temperature, such as *stick candy, lemon drops, hoarhound drops*, etc. These are generally made by the vacuum process.

OPEN FIRE CANDY: candies cooked in open kettles over furnace fires of coke, and pulled over hooks or on pulling machines, such as *molasses taffy, cream taffy*, etc.

PAN WORK: various forms of candy, nuts, etc., coated with sugar in revolving copper kettles or pans, such as *sugar-coated almonds, jelly beans, cinnamon imperials, burnt almonds and burnt peanuts.*

GUM WORK: candy cooked in large melting kettles, then molded in impressions made in starch, dried, separated from starch and sugared, such as *gum drops.* These are also allowed to stand in sugar syrup over night, thus forming a crystal on the goods, which gives them a bright, brilliant lustre.

CHOCOLATES: various kinds of candy dipped in chocolate, such as *chocolate creams, chocolate almonds, chocolate chips*, etc.

CREAMS: sugar cooked low and beaten to a creamy consistence, molded in impressions made in starch, dried, separated from starch, and crystallized.

CARAMELS: sugar and corn syrup cooked to a proper consistence in open stirring kettles, run out in thin sheets on marble slab tables and cut into squares when cooled.

COCOANUT CANDY: sugar, corn syrup and cocoanut, cooked in open stirring kettles, run out on marble slab tables and cut into various shapes when cooled.

MARSHMALLOWS: sugar, corn syrup and gelatine, beaten together, molded in impressions in starch, dried, separated from starch and dusted with powdered sugar.

There are endless varieties of candy made by combinations of different materials, varying in wholesale value from 4c. to 50c. a pound and in retail from 10c. to $1.25. When eaten in moderation, it is as wholesome as it is palate-pleasing.

The United States consumes more candy per capita than any other country in the world—its annual output is about 400,000,000 pounds.

CANISTER: originally a basket of *kanna* or reed, now a box or case for tea, etc.

CANNED GOODS. The preservation of foods by sterilization and hermetical sealing is not a new process, but its present importance as an industry is of comparatively recent origin.

The list of articles which are preserved by canning is a long one, and includes a great variety of fish, meats, fruits, vegetables, poultry, soups, etc.—yet the industry is susceptible to still greater development. Current opinion in this country credits the United States with being the foremost exponent of canned goods and it is true that in several items, such as salmon, tomatoes, corn, etc., the total output is considerably greater than that of all other parts of the world combined, but in diversity of articles we have much to learn from Europe. We are all acquainted with some of the special French lines, but it would surprise the average reader to see the variety of the outputs of other continental nations. Holland, for instance, has canneries which put up from

two to several hundred different items. The list includes nearly every possible vegetable, in first and second qualities, separate and mixed—as for example, several varieties of peas, separate, and combinations of "green peas and spring carrots," etc., numerous combinations of vegetables and meat—as, "beef and onions," "green peas and veal," "chestnuts and sausages," "spinach and ham," etc.; and all kinds of meat delicacies, poultry, game, soups, sauces, fruits, etc. The most numerous items are vegetables, meats and mixed vegetables, and meat.

Many of the canned articles used in Europe, but at present unknown in this country, are sure to become popular here in course of time if canning interests foster public confidence by rigid inspection of their outputs and unremitting vigilance to see that irresponsible or unscrupulous concerns do not foist undesirable goods on the market. Canned goods consisting of sound foods, put up with proper care and handled thereafter with reasonable precautions, are just as wholesome and nutritious as the fresh articles.

To foster the trade in canned goods, which offer large future possibilities for him, the retailer should use every possible care to see that a customer receives nothing that is open to suspicion as to the quality, nor objection as to the quantity, of the edible contents of the can. A can of tomatoes, for example, should contain chiefly tomato flesh —it should not reveal on opening a superabundance of watery juice.

The present method of canning is the process invented by a Frenchman named Francois Appert a little more than a hundred years ago, improved in detail and amplified in use by modern mechanical devices and equipment. The two principal points to be achieved are (1) the exclusion of all air from the can by hermetical sealing and (2) the destruction of all micro-organisms by sterilization—cooking the can at high temperature and high pressure. The details of the process vary with different foods and cannery methods. Some items are placed in the cans in a raw condition, others are first partially cooked. Some undergo two cookings in the can, being "vented" between cookings—*i. e.*, the tops are pierced to allow the steam to escape, the holes being soldered over immediately thereafter. Many modern canneries achieve the same purpose by means of a steam-heated "exhaust box" which extracts part of the air in the filled cans before they are sent to the capping machines.

If only good grades of bright tin plate are used, the sterilization has been complete, and the can is air-tight, the food contents, whether meats, vegetables or fruit, will remain good and wholesome for an almost indefinite length of time.

Any imperfection in the can or damage to it, which admits even the smallest amount of air, will result in fermentation and decomposition and render the contents unfit for food, so care should be exercised in the handling of all canned goods. A similar result will ensue from imperfect sterilization—*i.e.*, if the heat employed was not sufficient to sterilize every portion of the contents. Fermentation of any kind will tend to make the can bulge more or less. Consequently, if there is the slightest swelling of the can, either top, bottom or sides, send it back—never on any account sell or use such a can as it may be poisonous enough to kill. All canned goods are returnable for this cause, being guaranteed by the packer to the jobber and the jobber to the retailer.

The "swelling" is a reasonably sure test for all unopened canned goods except corn —which may be found sour inside a can in apparently normal condition.

The reason that jams and other sweet preserves maintain their wholesomeness without such precautions as required for the canning of meats, vegetables and unsweetened fruits, is that heavy syrup is not favorable to the growth of yeast, etc.

The "biggest sellers" in canned goods in the United States to-day are in *fish*—salmon (a long way in the lead) and sardines; in *fruit*—peaches; in *vegetables*—tomatoes, corn and peas, twice as many cans of tomatoes being sold as of corn and five times as many as of peas.

Grocers should never sell a can of any meat or fish in the summer without advising the buyer to keep it on ice for a while before opening it. Meats, salmon, lobster, crabs and shrimps are disgusting to many people when taken out in a flabby and warm condition, but the simple precaution mentioned will give the fresh, firm appearance desired.

The last point in the use of canned goods—and a very important one—is the necessity of every consumer understanding that, as soon as a can is opened, all of the contents must be taken out and put in a china, glass, earthenware or similar receptacle, dish or plate—and covered, if held over after a meal. The very best and purest canned meats and fish are liable to generate poisonous ptomaines, if left standing in the can.

It may be added that ptomaine poison is not a special poison from canned goods only—it may be, and often is, generated in various items of home-cooked food if unduly exposed, or left long enough to permit decay to set in.

CANTALOUPE: a general title for several varieties of muskmelon, derived from Cantalupo, Italy, the place of their first cultivation in Europe. See MELONS.

CANVASBACK: one of the most famous of wild water-fowl. See DUCKS (*Wild*).

CAPELAN: a small fish very abundant along the shores of Newfoundland. It is principally used for bait in codfishing but some of the catch is dried for human consumption. The flesh is agreeable in flavor, somewhat resembling fine herring.

CAPERS: the flower buds of the caper bush, growing in countries along the Mediterranean. They are used as pickles and to add to sauces, etc.

The caper crop is gathered from June to September or October, the end of July giving the heaviest yield. After picking, they are carefully dried to avoid fermentation and then stored in barrels of vinegar, the latter being sometimes flavored with tarragon sprigs, elder flowers, cloves, peppercorns, etc.

During the winter following the gathering, the capers are graded by size by passing through sieves. The seven chief classifications are—"Nonpareil" (smallest), "Surfine," "Capucine," "Capote," "Fine," "Mi-fine," and "Commune" (largest). After grading, they are replaced in barrels of vinegar and thus preserved until sold. Before shipment, they are washed in vinegar of a standard of 12°, which renders them quite firm, and placed in barrels without vinegar, the finer qualities to be repacked in bottles, etc.

A fraud sometimes attempted is to mix with the capers a quantity of nasturtium berries, which resemble them in size and appearance.

CAPON: a male chicken castrated to increase its growth and weight. See CHICKEN.

CAPSICUM. There are many species of Capsicum, all native to the warm parts of America, Africa and Asia, and now cultivated in every part of the world. The small fruited types, generally the most pungent, are best known popularly as "Chilies," and the larger as "Peppers." "Chilies" are used whole in vinegars, pickles, etc., and to grind

into cayenne pepper, and "Peppers" are eaten as a vegetable and ground into red pepper (see CHILI, PEPPER and PEPPERS, *Green*).

CAPUASSA: a yellow-fleshed, large-seeded, Brazilian fruit enclosed in a rough hard shell. European travelers have said in describing the crushed and diluted pulp that the resulting drink "is worth a voyage across the Atlantic."

CARAMBOLA (also called the *Coromandel Gooseberry* in India): a curiously formed fruit about the size of a large egg, with a thin, smooth, generally yellow, coat. Its flavor varies from sweet to acid so it is variously consumed,—raw, cooked, in chutneys, etc.

CARAMEL: a dark-brown substance obtained by heating either "ordinary" or "starch" sugar. It is formed also during the roasting of all materials containing sugar, such as malt (which see) and coffee. It is much used for coloring wines, spirits, soups and other liquids and for flavoring custards, milk, etc.

"Caramels" is the name given to a candy whose soft mucilaginous character is due to its large proportion of Glucose (see CANDY and GLUCOSE).

Caramel Cereal, used as a coffee substitute, consists chiefly of malted grain.

CARAWAY SEED: the highly aromatic seeds of a plant which grows wild in the meadows of Holland and Northern Germany, and is cultivated in many other countries, including the United States—especially California. They are employed in a variety of ways—as a culinary flavor, in confectionery, baking, etc., and in the perfumery and soap making industries.

The roots of the Caraway plant were at one time eaten as a vegetable, and the young and tender leaves still occasionally serve for flavoring soups, etc.

Caraway

CARBONATED WATERS: a wide class of refreshing refrigerant beverages, rendered sparkling by impregnating them with carbon-dioxide (carbonic acid gas) under pressure. The term does not include beverages in which the carbon-dioxide is produced by the natural process of fermentation. The carbon-dioxide is produced preferably by the use of bicarbonate of sodium, but also frequently from limestone, marble dust, etc., by the action on them of sulphuric or other acid. The gas is first washed with water and stored in a copper bell or gasometer, being thence pumped along with water into copper or gun-metal vessels lined with pure tin, being made to mingle with the water by agitation or other means. When the pressure inside the water reaches about 100 pounds to the square inch, it is ready to be bottled in syphons. A great variety of temperance beverages are made by putting a sufficient quantity of flavoring syrup in bottles and filling with Carbonated Water. Many spring waters carbonated by nature have important medicinal properties (see MINERAL WATERS).

CARDAMOM: the dark wrinkled triangular seeds of a spice plant, native to India. They possess an aromatic and agreeably pungent flavor and are used in cooking, especially in curries and soups, by confectioners, etc.

CELERY

CARDOON: a plant of the thistle family, somewhat resembling the Artichoke, but generally larger, some varieties attaining a height of eight to ten feet, with leaves often three feet or more in length, light green in color and covered with white down. It is grown chiefly for the stems and leaf mid-ribs of the young plant, which are thick, fleshy, tender and crisp if properly cultivated and blanched.

Cardoon

Cardoon is used in salads, stews, soups, etc., and as a vegetable, in the last-named case being served with various forms of dressing or with butter sauce, etc. Considerable quantities are imported from France to supplement the domestic product. In cooking, the stalk is cut into thin strips about five to six inches long, cooked in slightly salted water until tender, then freed from strings, etc., and set aside to become cold. If not properly prepared, it is dark in color and unpleasantly bitter.

The main root, which is thick, fleshy and pleasing in flavor, is also frequently prepared as a winter vegetable.

CARLSBAD. See article on table and medicinal MINERAL WATERS.

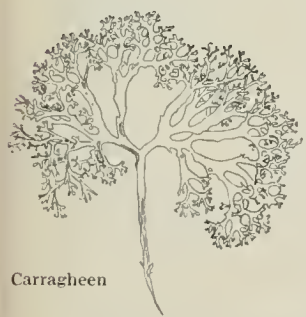
CARMINE: a red coloring obtained from the female cochineal, a small insect found chiefly along the Phœnician coast. It is used for culinary purposes, in the manufacture of syrup, sauces, etc., and in various other industries.

CAROB BEAN: the "Husks" of the Prodigal Son. See ST. JOHN'S BREAD.

CARP: a fresh water fish spending most of its time in muddy bottoms and banks. It is generally of bronze appearance and the larger specimens attain a weight of fifteen to eighteen pounds. There are many varieties, the three best known being the Buffalo or "Common," in season from the middle of July to October; the German, about half the size of the Buffalo and distinguished by its sides being bare of scales, in season from October to April; and the Salmon, a variety which by environment has attained a slight salmon tint and taste. The flesh of all except the Salmon is a firm white.

The German Carp are the descendants of fry imported from Germany, but they have lost some of the fine characteristics of the home fish.

CARRAGHEEN, IRISH MOSS, PEARL MOSS: a species of edible seaweed named after the town of Carragheen, near Waterford, Ireland, found on the coasts of the British Islands, the rocky shores of continental Europe and the Eastern shores of the Northern United States and Canada. Similar varieties abound also on other parts of the American coast line.


Carragheen

The Carragheen of domestic use is obtained principally from New Hampshire and Massachusetts, the harvest season there extending from May to September. After gathering, the plants are washed in salt water and spread on the beach to dry and bleach, the process being repeated several times.

As marketed, Carragheen is in pieces of from two to three inches to a foot in length, cartilaginous and flexible in texture, branching in shape, and in color from a

reddish brown to straw color or white, varying with local differences in the plant and the extent of the bleaching.

The greater part of the supply is employed in the clarifying of beer. The remainder is retailed through druggists and grocers, etc., the best qualities packed in half pound and pound boxes.

To make a nutritious beverage, which is considered also a good demulcent for coughs, a scant ounce of Carragheen is placed in a quart to three pints of water, gently heated until the liquid is syrupy in consistence and then strained, milk and sugar or sugar and lemon juice being added to taste.

In the preparation of blanc-mange or jelly, a larger quantity is required. A good receipt is to soak a small cupful in cold water for about five minutes, then tie it in a cheese-cloth bag, place in a double-boiler with a quart of milk, add a little salt and cook for a half hour. When done, take the bag out, flavor the liquid with lemon or vanilla extract and pour into a mold or small cups, previously wet with cold water. When the jelly is set, it can be eaten with sugar and cream or fruit as desired.

CARROT: a root vegetable cultivated in both the United States and Europe, the small tender varieties for culinary purposes and the larger, later types for feeding cattle. It is one of our most wholesome vegetables and is consumed in a variety of ways—separately and in soups, stews, etc.

In cold storage, carrots have been held in barrels from November to the middle of July, but under other conditions they tend to heat and decay. If cold storage is not available, they are best stored on slat platforms, and covered lightly with sand. Good ventilation is an absolute necessity.

When purchasing carrots, see that they are firm to the touch and crisp when broken.

The juice of the red varieties is frequently employed on the farm to color butter.

CARTON: a pasteboard box for holding soaps, cereals or other goods.

CASEIN: the cheesy portion of the curd of milk, the protein constituent of milk. (See Milk.)

CASHEW NUT (*See illustration in color page of* Tropical Fruits): a kidney shaped nut which develops pendant-fashion on the red or yellow "Cashew apple," the two constituting the fruit of a large evergreen shrub, native to the West Indies and widely grown in other tropical countries.

The nut, of greenish-brown color, rich in milky juice when fresh, and with a delicate almond flavor, is consumed raw, roasted and pickled. The whole raw nut should never be crushed by the hands or teeth as between its two shells is a thick liquid which is so caustic that it readily blisters the lips and skin. The acid disappears with heat, so the roasted nuts do not offer this objection.

The "apple" is seldom seen in this country, but it has a pleasing sub-acid flavor and is enjoyed locally.

The Cashew Nut is valuable in many branches of business, being used in the manufacture of oil, ink, dyes, mucilage, cosmetics, etc.

CASSAREEP: the juice of the bitter Cassava or *Manioc* (which see) boiled to the consistence of thick syrup and flavored with spices. It is used as a basis for various sauces and as a culinary flavoring, principally in tropical countries. It is exported chiefly from British Guiana.

CASSAVA, Cassava Starch: starch obtained from the roots of the MANIOC (which see).

CASSEROLE: a porous dish of clay or earthenware, much used in French cooking. The heat penetrates it slowly and all the juices and flavors of the meats, etc., are retained.

CASSIA BARK: a variety of Cinnamon (which see).

CASSIA BUDS: the dried flower-buds of the tree which yields Cassia Bark, to which their flavoring is similar. In appearance they slightly resemble cloves. The Cassia tree does not bear buds until from fifteen to twenty years old.

CASTILE SOAP: a soap made of olive oil, also called Marseilles Soap. See SOAP.

CASTOR-OIL: an article of great commercial importance, made from the seeds of the Castor-Oil plant. In addition to its medicinal use, it is employed in the manufacture of some transparent toilet soaps, as a lubricating oil, in the arts, etc.

CATAWBA: one of the most celebrated of native American wines. It is a "white" wine, both still and sparkling, of fine flavor, originally produced from the Catawba grape, and now from their blending with other varieties, such as Delawares, etc.

The highest priced variety is the "sparkling"—the finer grades of which compare favorably with imported wines.

The sparkling variety should be served cold; the "still" at about the temperature of the room.

Some red Catawba is made, but in comparatively small quantity.

"Sweet Catawba" is a rich fortified wine.

CATCHUP: also called "Ketchup" and CATSUP (which see).

CATFISH. Two entirely different fish—one found in salt-water and the other in lakes and rivers—are known as "catfish." The flesh of the salt-water fish, which occasionally attains a weight of sixty pounds and is called the "Hogfish" in some parts, is very good in flavor, but the catch is nearly all cured, very little being marketed fresh.

The river variety is smaller and not particularly choice in flavor, but properly prepared, after the removal of its coarse brown skin, it is found quite as pleasing to the palate as many more highly rated fish. Catfish dinners are much esteemed along the Schuylkill River at Philadelphia.

CATNIP, or Catmint: a field plant growing wild throughout the United States. The leaves and young shoots—aromatic, pungent and more or less bitter—are used for

seasoning and as a domestic remedy. The leaves are best while the plant is blooming. They may be preserved by drying a few days, being afterward kept in a dry place.

Everyone is familiar with the pleasure a cat finds in playing with catnip, and catnip-balls, containing a few pieces, are an article of regular sale.

CATSUP, *Catchup, Ketchup*: a word derived from the name of an East Indian pickle, which was formerly applied specifically to the boiled spiced juice from salted mushrooms, but is now freely attached to various sauces (sold both bottled and in bulk) which consist of the pulp—boiled, strained and seasoned—of various fruits, as tomatoes, green walnuts, etc.

CAULIFLOWER: a variety of cabbage. It has been styled "cabbage with a college education," for its characteristics are the result of careful cultivation—the flower buds and stalks having been exaggerated by seed selection, etc., into a compact white mass which constitutes the vegetable proper, instead of the leaves as in other varieties of cabbage. In addition to its use fresh-boiled, etc., great quantities are consumed as a pickle.

The local Eastern crop is supplemented by large shipments from both France and California.

Cauliflower may be kept in any way suitable for cabbage (which see).

CAVIAR: the salted roe of various large fish of the sturgeon family. Nearly all the world's supply now comes from the Caspian Sea.

The finest quality caviar is that from the Beluga, a Russian word meaning "Great White Sturgeon," the largest of all sturgeons, which grows to a length of twelve or fourteen feet and sometimes weighs considerably more than a ton—a single cow-fish of that size giving as much as 360 pounds of caviar. These very big fish are becoming more scarce every year and the average Beluga now caught is much smaller.

PHOTO BY RUSSIAN CAVIAR CO.

Beluga or "Great White Sturgeon"

One hears and reads much of "Astrakhan Caviar"—yet there are no fisheries at Astrakhan (Russia). The name has clung because the City of Astrakhan is the greatest shipping place for caviar, largely via Germany.

Again, many people speak of "German Caviar," yet none of the small German Caviar product is exported—the impression arises from the fact that the Russian export trade is carried on principally by German firms with Hamburg as headquarters. London and Paris are both "outside markets," drawing their daily and weekly supplies from the Hamburg houses—but all the caviar they receive is Russian caviar.

After the fish has been killed, the roe is separated from the skin and fine tissues which envelop it by gently rubbing through a sieve. For "fresh," i. e., mildly salted,

caviar, for which only roe in the best possible condition is suitable, it is then salted in the proportion of two to six pounds to each hundred pounds of roe, drained and put up in air-tight tin packages or glass jars.

Roe in which the eggs are too soft or too far ripened for "fresh" grades, is cured with 10% of salt and packed in barrels for export, to be later repacked and cooked in tins for retail handling. This is the sandwich and canapé caviar of ordinary use.

"Pressed Caviar" is a peculiarly Russian variety of which very little is exported.

The size of the egg or grain varies from very small to that of peas. The color is generally black but may be also any one of various shades of yellow, grey, dark green and brown. The real test of caviar is its flavor and this is as often found in the small as in the large grain and in the black as in any other color, but the large eggs and the grey and yellow or "gold" colors are the most rare and therefore the most expensive. The gold color is considered the choicest in Russia, the greyish in Germany.

There is very little caviar produced in North America to-day, uncontrolled slaughter of the fish for many years having rendered it so scarce that it hardly pays to hunt it. Formerly, after supplying home markets, a considerable quantity of American caviar was shipped to Europe for sale as medium and coarse grades.

Caviar in America is generally eaten on bread or toast with oil, lemon juice or vinegar and various garnishes. It is also occasionally served on ice as a special course at luncheon and dinner parties.

CAYENNE: a red pepper, named after Cayenne, a city of French Guiana.

CELERIAC: a kind of turnip-rooted celery. It is good for salads, the root being boiled and sliced cold for mixing with other ingredients.

CELERY: as we know it, is the cultivated variety of a plant of the parsley family, which is found wild in many parts of both this country and Europe. It is grown in large quantities in divers latitudes—New York, Michigan, Ohio, Florida, California and Bermuda being the largest producers. It was formerly obtainable only at certain seasons, but the finer grades are now on sale all the year round.

Celery requires constant care and cultivation, and rich moist soft soil of saline character to attain its best qualities. For early celery, the seed is planted in hot-houses and the small plants are set out as soon as the frost leaves the ground. For late celery, the seed is sown in the open ground. The whiteness of the stalks is obtained by "banking" earth or other material up along the rows of plants or putting boards alongside for the same purpose. Some growers raise three crops each season, following each lot by immediately setting out the small plants for the next.

Blanching Celery by boards

Every part of the celery plant can be used to advantage. The stalks and heart are served in a variety of ways—plain raw, with various fillings, in salads, cooked in numerous ways, etc. The outside stalks may be cut in pieces and stewed. The trimmings are excellent for

flavoring broths, etc. The seeds are used for celery salt and many pickles and seasonings.

Celery from Michigan and New York State is best from July 15 to December 1 or later; California ships principally from Thanksgiving to March 1; Florida from February 15 to May 1 and Bermuda from April 15 to the middle of June.

To keep in the best condition, celery should be wrapped in paper and held in a cool place. In refrigerated cooling rooms, it can be kept in good condition from one to two months. It may also be stored in cool cellars if packed just as taken from the ground, without either washing or trimming, heads up in long deep boxes and filled around the roots with sand, which should occasionally be moistened.

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Girls hoeing Celery beds, near Buffalo, N. Y.

CENTRIFUGAL MACHINE: an apparatus used in many different industries, chiefly for the extraction of moisture—to remove the syrup from sugar, to extract the honey from honeycomb, to dry yarn, cloth, etc. The process is, essentially, placing the substance or material in a perforated basket or case which is revolved with great rapidity, the result being that the moisture is expelled from the basket and caught in the receptacle enclosing it.

CÈPES. See MUSHROOMS.

CEREALS. Agriculturally speaking, the term "cereals" refers to all species of "grasses" which bear grain, the most important being wheat, corn, rye, oats, rice and barley. The world's huge crop of wheat, for example, comes under this classification. From the standpoint of the grocer and the average consumer though, the term applies specifically to preparations of grains intended for table use—such as oatmeal and the great variety of so-called "breakfast foods."

The subsiding of the temporary popularity which a multitude of cereal preparations and combinations enjoyed a few years ago, banished into oblivion a long list of "breakfast foods," but a number of those which remained by virtue of proved merit and consistent publicity have grown steadily in public esteem, and the line is well worthy of attention, for it is clean and easy to handle, being practically all package goods, and quite profitable, if the proper kinds are selected.

Package cereals may be divided into three main classes: (1) crushed raw, (2) partly cooked and (3) malted. In the last named, part of the starch is converted into maltose and dextrin (forms of sugar—see article on GLUCOSE) by mixing the ground grain and malt and keeping it for a time at the proper temperature, then passing the mixture through hot rollers and drying.

It does not, however, pay to handle this line unless there is a fair margin of profit. Nor should too many kinds, nor too large quantities be stocked, as if held for a long time weevils are liable to get in and spoil the goods.

The more general use of the double-boiler has improved the preparation of cereals, preventing loss by burning and scorching, but in the average household the raw

or semi-cooked varieties are not sufficiently cooked before serving. Thorough cooking increases their food value by making them more readily digestible. The "fireless cooker" is the ideal utensil for this purpose.

Cereals should always be kept in a dry, cool place.

Ceriman blossom and immature fruit

CERIMAN (sometimes called the "False Bread-fruit"): a sub-tropical fruit, varying from cone to banana shape and often reaching a length of fourteen inches. The flesh is excellent in flavor and delightfully aromatic. The husky skin is tender and easily removed.

CERVELAT: a popular variety of smoked sausage. See general article on SAUSAGES.

CETTE WINES: "Burgundy," "Port," "Vermouth," etc., exported from Cette, an important city on the French Mediterranean coast and the principal shipping point for the Department of Hérault. Hérault produces nearly one-tenth of the total French wine supply, but only a comparatively small quantity is exported, the bulk being retained for domestic consumption.

CHAMOIS SKIN, or LEATHER, Shammy: used for polishing, is, ordinarily, goat or sheep skin made soft and pliable by treatment with oil. It takes its name from the original use of the skin of the Chamois, a goat-like antelope, of mountainous parts of Europe and Western Asia. To clean "shammy," use warm water, soap and a little soda, rubbing the soap well in. Washing in plain water will harden it.

CHAMPAGNE. Contrary to general impression, Champagne is made from fine varieties of black and red grapes. Its "white" color is due to the fact that the grapes are pressed before the skins have had a chance to color the juice.

The grapes are sorted immediately after gathering and taken at once to the press-house where they are again critically inspected during the weighing and then, with the least possible delay, pressed to separate the juice from the pulp.

The products of the first three pressings become first class wines. The subsequent pressings produce only an inferior article, generally used for local consumption.

This virgin wine is left standing in large vats to await fermentation—the process being instigated by the micro-organisms ("wild" yeast cells) contained in the "bloom" of the grape and carried into the juice when pressing. In fermentation, the natural sugar of the grape juice is transformed into alcohol and carbon-dioxide (gas). The latter escaping by the bunghole, produces the stage commonly called "boiling."

As the weather becomes cold, the ferments gradually lessen their activity until the wine finally becomes clear and is in condition to be separated from its lees.

With the approach of the following spring comes the most critical operation—the one which tests the experience and ability of the wine merchant—the blending of

the crude wines to suit the tastes of his clienteles in various countries. When the desired result has been obtained, the "cuvée" is said to have been formed and is ready for bottling.

A certain amount of cane-sugar is added to the wine and it is then put into new and carefully cleansed bottles, which are corked as filled and taken at once to the cellars.

The return of spring again sets the ferments in action, transforming any natural sugar still left in the wine from the previous fall—and also the cane-sugar added—into alcohol and carbon-dioxide—but this time the gas cannot escape and instead mingles with the liquid, producing the "sparkle" for which champagne is famous.

But the development of the wine is not yet completed, for this last fermentation leaves a deposit or sediment to be got rid of. To accomplish this, the bottles are held in racks, head downwards at an angle of 70°, for three months or longer while the deposit slowly descends and collects on the corks. Every day during the entire period a specially trained cellarman gives each bottle a slight twisting motion to assist its descent.

When all the sediment has collected on the corks, the cellarman takes each bottle separately and removes the cork, or undoes the iron clasp holding it, according to the method employed, and the rush of the carbonate gas forces the deposit out with a loud report. The wine is thus left absolutely clear and sparkling.

By the most modern process, the necks of the bottles, when ready for the extraction of the sediment, are placed to a depth of about three inches in a refrigerating bath to congeal the deposit and thus facilitate its expulsion.

The second fermentation has removed all taste of sugar, and for a perfectly "dry" wine, the cellarman refills the empty space in the neck of the bottle, left by the withdrawal of the sediment, with unsweetened "dosage" and recorks the bottle as it is. Nearly all the champagne sold is though sweetened more or less—the extent varying with the preferences of the different countries to which it is to be shipped—and consequently the dosage usually consists of sugar dissolved in "champagne" brandy and variously flavored. A keen palate can often clearly detect the flavors of the dosage—as of apricots or other fruits.

The bottles go next to underground wine cellars to mature. The cellars or "caves" at Reims consist of miles of tunnels cut in and through old chalk pits. The length of time required to attain proper maturity depends to a certain extent on the quality and characteristics of each year's vintage. An average of eight years is generally considered sufficient.

It is a matter of common knowledge that many of the stronger "still" wines are improved by long life in the bottles, but that a good vintage champagne will improve up to the tenth year is not generally known.

The "dryer" the wine, the more important becomes the time set apart for its aging, and the finer the discrimination possible in comparing the merits of different vintages. In heavily sweetened champagnes, the "sharpness" of immature wine or the mediocrity of a poor vintage may be obscured to a very considerable extent by the sugar flavor.

An easy test for age in champagne is found in the corks extracted. If the end of the "stem" swells out to approximately the same dimensions as the head of the cork, you may be sure the wine has not been very long in the bottle. If it swells only moderately, it has been to that extent better matured. If it proves to be lacking entirely in

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VINEYARDS COVERING HILLS IN THE CHAMPAGNE DISTRICT, FRANCE

resiliency and retains the straight up and down shape of the inside of the bottle's neck, it has been aged sufficiently for any connoisseur's requirements.

This test applies only to champagne and similar sparkling wines,—not at all to old ports or Rhine wines, or any other wines held longer than ten years to mature, as in such cases new corks are generally substituted about every ten years.

Most of the champagne consumed in Russia, Germany and other countries of Northern Europe is heavily sweetened. An 18 to 20 per cent syrup addition was formerly common in that shipped to Russia and 14 to 16 per cent in that for Germany. About 12% was quite common in France itself. The champagne consumed in those countries is not as sweet as formerly, but it would still be considered excessively so by English and American connoisseurs.

"Sec" or "dry" champagne is wine with only a comparatively little sweetening—generally from 3 to 5 per cent. "Extra dry" has still less. "Brut," which means "natural" or "unsweetened," signifies champagne without any sweetening or, as generally, with only the minimum amount.

In Europe, the terms "sec" and "brut" serve to distinguish the wines so labelled from the heavily syrupped types mentioned, but as very little really sweet champagne is ever seen in this country (practically all of the importations being of the "sec," "extra sec" and "brut" types), "sec" has come to mean "sweet" to American consumers. It is "dry" in comparison with the sweet European champagne, but it is "sweet" in comparison with the still dryer "brut."

A small quantity of champagne sweeter than "sec," though not nearly as sweet as much of that consumed in Northern Europe, is imported and sold here under special trade titles, but the demand for it is comparatively small. "Sec" is probably the typical American taste, being generally preferred both to sweeter and dryer types.

It is necessary, however, to confine oneself to generalities in discussing this subject, as both wines and firm policies vary considerably. It is impossible to give a conclusive idea of the sweetness of different cuvées by naming the percentage of syrup added, as different quantities may be required to obtain the same degree of sweetness—the same amount of syrup added to a fine mellow wine would make a much sweeter article than if added to a young sharp wine. And, as there is no absolute standard of definition for "sec" or "brut," it may happen that one firm's "brut" is sweeter than another's "sec."

Another classification, which does not so generally affect the average consumer, but is understood by the connoisseur, is into *non-Mousseux*, not effervescent (seldom seen); *Crémant*, moderately sparkling; *Mousseux*, sufficiently effervescent to eject the cork with an audible report, and *Grand Mousseux*, excessively effervescent.

It is very important that champagne should be kept in a dark cellar where the temperature is cool and even. If exposed to light and variable temperature, it will lose much of both effervescence and flavor. The bottles should be laid on their sides, inclined slightly downwards so that the wine keeps the cork moist. If it has been shipped a considerable distance, it should be allowed to rest a few days before serving.

Champagne should be drunk cold, but the cooling process should be gradual—it is detrimental to shake it or turn it violently in the cooler, as is so frequently done.

Several styles of wine glasses are used for serving champagne. The most desirable are those which show the "sparkle" best and retain it the longest. The "hollow-stem" glass is excellent by both these standards. It is important that the glasses be perfectly dry before pouring the wine into them—a damp glass kills much of the sparkle.

As the sale of imported champagne is in this country largely directed by advertising, it is not generally advisable to stock heavily any brand with which the public is not thoroughly familiar. The French government has restricted the use of the title "champagne" to wine made within a certain clearly defined area, covering nearly all of the Department of Marne—which includes, among others, the cantons of Avize, Ay, Chalons, Epernay and Reims—and a few communes in the Department of Aisné.

There are several American "champagnes" now made which are excellent in quality and show a good profit to the retailer. See AMERICAN WINES.

CHAMPIGON: the French name for *Mushroom* (which see).

CHARD, Swiss Chard, Leaf-Beet: a variety of beet which is grown only for its leaves and stalks, the latter, and also the leaf midribs of some types, being cooked and served in any way suitable for Asparagus. The leaves are prepared as "greens" or may be chopped up, mixed with cream and served with the stalks.

Swiss Chard is a variety with especially large stalks, leaves and midribs.

The term "Chard" is also applied to the blanched stalks, midribs, etc., of the artichoke, cardoon and several other plants.

Swiss Chard

CHARLOTTE. See list of *Culinary Terms* in APPENDIX.

CHARTREUSE: a famous liqueur (*see Color Page of* LIQUEURS) originally made by monks of La Grande Chartreuse, France. After the exclusion of the Carthusian monks from France, they retired to Spain near Tarragona and there, claiming the process as still their exclusive secret, make a liqueur branded "Liqueur des Pères Chartreux." It contains the aromatic principles of a great variety of fruits, spices and herbs and is marketed in three colors—green, yellow and white.

See also "Chartreuse" in *Culinary Terms* in APPENDIX.

CHEESE: the product obtained by coagulating the casein of milk by means of rennet or acids, with or without the addition of ripening ferments and seasonings. The casein is usually coagulated with rennet, the curd being then separated from the whey and pressed in suitable molds. By act of Congress, approved June 6, 1896, cheese may contain additional harmless coloring matter—this generally consists of annatto or other colors from vegetable sources.

Whole-milk or *full-cream* cheese is made from milk from which no portion of the fat has been removed. U. S. Standard whole-milk cheese or full-cream cheese is cheese

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Filling cheese hoops with the chopped curd

containing in the water-free substance not less than fifty (50) per cent of butter fat.

Cream cheese is made from milk and cream, or milk containing not less than six (6) per cent of fat.

Skim-milk cheese is made from milk from which part of the fat has been removed.

Cheeses are commonly graded as Special, Fancy, Good, Prime, Common, etc.

Italy and Switzerland supply the greater part of the cheese imported. Next come Holland and France.

As an article of food, cheese is very nutritious. When eaten in quantities it burdens the digestive organs, but in small amounts, as a condiment, it stimulates and aids the digestion of rich foods and dessert. When taken after eating, and especially when rich and old, it is particularly efficacious in that respect by powerfully promoting the secretion of saliva and gastric juice.

In the United States, cheese making has been transferred bodily from the realm of domestic arts to that of the manufacturer, and farm-made cheeses are hard to find anywhere. New York and Wisconsin together produce three-quarters of the entire output of the country. Next in order are Ohio, Illinois, Michigan and Pennsylvania.

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Cheese Curing Room

More than nine-tenths of the cheese made is of the familiar standard copied after the English Cheddar. The annual consumption here though is only 3 lbs. per capita, which shows how little its highly nutritious value is appreciated.

In manufacture, the milk is generally warmed in large vats to a temperature of not less than 84° Fahr. The rennet, or other coagulative mixture, is then added, a pint of rennet being sufficient to turn from 2000 to 3000 quarts of milk. As the curd forms, the temperature is raised to nearly 100°, until the whole mass of curd separates from the whey. The latter is then drawn off by cutting the curd across both ways, and passing wired paddles or curd-knives through it. After the whey has been removed, the curd is allowed to "mat" or ferment slightly and it is then broken up, salted, formed and pressed. Ten days or so later, the cheese is rubbed to remove any mold, and perhaps paraffined to prevent such formation later. It is then kept until properly ripened for market.

The storing of newly made cheese is the next point that engages the attention of the maker and wholesale dealer. The same principles which influence the maturing or ripening of fermented liquors also operate here. A cool cellar, neither damp nor yet too dry, which is uninfluenced by changes of weather or season, is commonly regarded as best for the purpose. The temperature should not be permitted to exceed 50° to 56° Fahr. at any time—an average of about 45° is preferable when it can be maintained. A place exposed to sudden changes of temperature is as unfit for storing cheese as it is for storing beer. Roquefort, the highest grade of highly ripened cheese, owes much of its perfection to the dry caves in which it is stored and ripened.

The care of cheese in the store is often neglected. In warm weather, it should be kept in a cool, dry place, and frequently inspected and turned over in the boxes. If

a cheese shows signs of swelling, it should be pierced with a wire to give vent to the gas, which can then be expelled by gentle pressure on the swollen portion. All mold or mites on the top of the cheese should be swept or neatly scraped off and the surface rubbed with a little sweet oil or strong brine. For maggots or "jumpers," the remedy is to clean the affected parts and keep the cheese well dusted with rice flour. If the loose sheets or plates which lie on the top and bottom of the cheese are found to be damp, they should be replaced by clean, dry ones.

The cut cheese can be kept moist by pressing lightly buttered pieces of parchment firmly on the cut surfaces or by buttering them. There will also be less tendency towards dryness, and therefore less shrinkage, if each exposed surface is cut from alternately. The fresh appearance of the cheese in general can be retained by wiping the outside each day with a damp cloth, soaked in salt water.

For the important part played by bacteria, etc., in the ripening of cheese, see article on BACTERIA.

There are countless varieties of cheese, but those described in the following list may be taken as representative of all popular types. *Camembert*, *Cheddar*, *Cream*, *Edam*, *Limburger*, *Neufchatel*, *Pineapple* and *Swiss* are depicted in the two color pages of CHEESE—(1) the frontispiece, and (2) facing page 118.

APPENZELL: made either of skim or whole-milk, in Appenzell, Switzerland. It is very similar to Emmenthaler (which see).

BRANDIED: strong old cheese, ground or rolled fine, and mixed with brandy. A full-cream cheese, which has become a little over-ripe, is pared and then rolled into a smooth dough with a rolling pin. Layers of this dough, from a half inch to an inch thick, are put in an earthen crock, and good brandy is poured over each layer. When the crock is nearly full, the cheese is covered with several thicknesses of oiled muslin, and, during the first few weeks, a little brandy is poured on top at regular intervals. It will improve with years.

BRIE: a soft French cheese, treated and ripened in much the same way as Camembert (which see).

CACIOCAVALLO: an Italian cheese, generally of roundish-beet shape and about three pounds in weight, which after making and salting is filled into sausage skins and lightly smoked. It is sometimes eaten fresh, but is more often stored for several months and then grated to use as a flavoring for soups and as an addition to macaroni and similar pastes.

CAERPHILLY: a hard Welsh cheese generally weighing about eight pounds, made from very sweet whole milk.

CAMEMBERT: a soft, rich cheese, made in the former province of Normandy, France, the best now coming from the districts of Orne and Calvados. It is generally put up in round wooden boxes or tins and is marketed in May and November. It is made from two separate curds, the morning and the evening, and the strength of the rennet mixture employed is varied with the weather, being much stronger for the winter than for the summer product. When the first curd is ready, it is filled into molds with great care so as not to break up the mass, but to fill each round hoop or form with one motion. These filled forms are placed on straw mats, which facilitate drainage and add to the agreeable appearance of the finished cheese. The morning's curd will have sunk considerably by the time the evening's curd is ready, and the latter, which may be

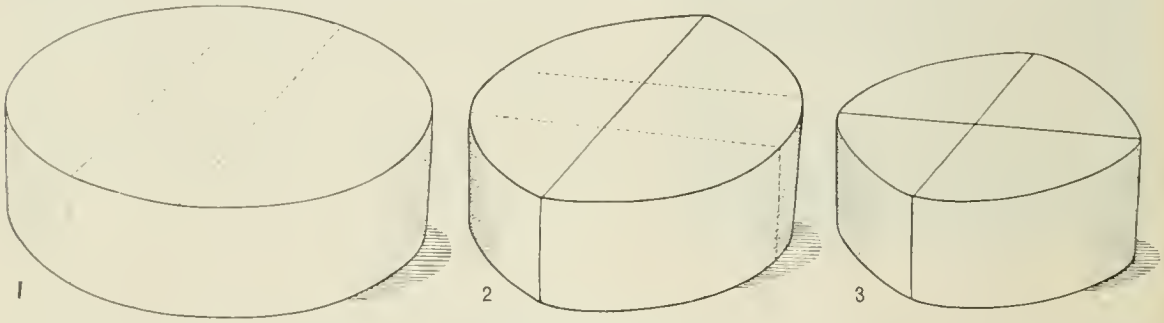
a little richer, is added to it, the top of the under layer being slightly disturbed or scored to facilitate joining. On the second day, the cheeses, having hardened sufficiently to be turned, are slightly salted on the surface and set on fresh mats to remain till they are hard enough to be removed from the frames. In the drying room, where they rest for four days, the first or white fungus or mold appears—this is essential to their flavor and ripening and is succeeded after about a week by the fine blue mold characteristic of the fully developed cheese. When the condition of the blue mold is fully established, the cheeses are removed to the curing room, where they are kept at a temperature under 60° Fahr. until ready for market.

More Camembert cheese would be used if the ordinary consumer knew how to handle it. At dinner parties or hotels it is easy to dispose of an entire cheese at one meal, but the provident housewife hardly likes to see three-quarters of it dry up or run away because the family is small or the cheese is only appreciated by the head of the house—of whichever sex.

Keep your Camembert cheese under a large inverted finger bowl—you can find no better receptacle.

If kept in a cool place, the cheese naturally stiffens. If it is fresh and not shrunken it will always be soft if held for a few hours in a warm room.

In cutting for the first time, cut a section as shown in Figure 1 below, and then push the two sides of the cheese together as in Figure 2—the rind will thus continue to protect it. At the second meal, cut through crosswise and at the end of the meal push



Cutting Camembert Cheese

the parts together (Figure 3), so that the four quarter-sections again make a circle, exercising a little care in pasting the side joints. This process may be repeated as often as necessary, but it is to be hoped that the cheese will be sufficiently appreciated to be consumed within four meals.

CHEDDAR: which takes its name from the village of Cheddar, England, the original place of manufacture, is, from the standpoint of quantity consumed, one of the most important of all cheeses. It is generally of pale color and agreeable nutty flavor, but the title, as now employed, applies to the essential process of manufacture rather than to any one type, "Cheddar" being sold in many styles, shapes and sizes.

All Cheddar is made from sweet milk and a distinctive feature of its manufacture is the development of the maximum quantity of acid obtainable in the whey without injuring the texture of the cheese—but the milk used may be either whole, partly skimmed or skimmed, and the cheeses may be white or colored yellow and may be marketed mild and fresh or thoroughly ripened. Those of whole milk are known as "full cream," others as "part skim" or "skim." The cylindrical shape is the most popular for the large cheeses.

CHESHIRE: is made from whole milk. It resembles Cheddar but is of stronger flavor. In England, Cheshire cheeses weigh up to as high as 150 or 200 pounds, but in this country they range from 20 to 70 pounds, generally in cylindrical shape. From eight to ten months is required for ripening.

COLHOMMIER: a small Brie cheese, five to six inches in diameter and one inch in thickness, weighing about one pound.

COTTAGE, also called *"Dutch Cheese"* and *"Smier-Kase"*: a sour milk cheese extensively made and consumed here, sold both in bulk and wrapped in tin-foil. The curd is broken up and held at about 100° Fahr. until sufficiently firm, the whey next being drained off and the curd placed under moderate pressure for some time. If to be held long, it is packed in tubs and placed in cold storage to prevent ripening. For eating, it is generally moistened with milk or cream.

COTTENHAM: a rich English cheese, in flavor and consistence quite similar to Stilton, but flatter and broader in shape.

CREAM: is made in several ways, the two chief varieties of American manufacture being (1) sweet cream thickened with rennet or by souring, drained and salted; and (2) cream curdled with rennet, broken up to allow part of the whey to escape, then mixed or worked almost to a paste, molded into pieces weighing two to four ounces, wrapped in parchment paper and tin-foil and placed on the market fresh (without any curing). The second style is manufactured here on a very large scale.

There are also a number of French Cream and "Double Cream" cheeses, of which *Neufchatel* and *Gervais* are the best known examples.

DEVONSHIRE CREAM: is, essentially, cooked cream. The cream is allowed to rise on the milk for several hours, then the milk and cream (still together) are scalded and set aside to permit the cream layer to harden. The latter is then put in small molds and set on straw mats to drain. It is ready for market without further preparation as soon as it is hard enough to retain its shape.

D'ISIGNY: a soft, creamy American cheese, bearing a close resemblance to imported Brie, but made by a process similar to that for Camembert and put up in Camembert shape, though a little larger—about 1½ inches thick and 6 inches across, wrapped in paper and weighing about a pound.

DORSET: resembles Stilton in character and manufacture. It takes its name from Dorsetshire, England.

DOUBLE GLOUCESTER. See GLOUCESTER.

DUNLOP: a rich, white and buttery cheese, resembling Cheddar, made in round forms of from thirty to sixty pounds. It was formerly the national cheese of Scotland, but has been practically superseded in that country by Cheddar.

DUTCH CHEESE: a general name for Edam, Gouda and Cottage Cheese (which see).

EDAM: a highly salted, red, round cannonball cheese, made in Edam, Holland, and its vicinity, principally on farms. The curd is pressed in molds—sometimes of metal, but usually of wood, cup shaped and round bottomed, with similar shaped tops to complete the spherical form—going next for a few days to "salting" cups of similar shape. In the curing room, the cheeses are placed on shelves with holes in them to prevent them rolling off, and are turned and rubbed each day. At the end of a month they

are washed, dried and rubbed with flaxseed oil till they shine and are then ready to be loaded into carts—which are generally dragged by dogs to the market town.

The red color of the outside skin is obtained by carmine or a weak solution of litmus and Berlin red.

The shells of Edam or Pineapple cheese are useful for serving macaroni. Heat the shell in a moderate oven and pour in the (cooked) macaroni. If the macaroni is to be browned, set the filled shell in the oven again—this will, however, destroy the shell after three or four times.

EMMENTHALER (commonly called *Swiss Cheese*, or *Schweitzer*): a rennet cheese made from whole milk, of mild rather sweet flavor and generally distinguished by holes or "eyes" of various sizes and frequency. It was originally made in Emmenthal, Switzerland, and that country is still a large exporter in spite of the fact that similar cheese is now manufactured in nearly every country. The French product is known, both in France and by export, as *Gruyère*. That made here is known as "Domestic Swiss."

The cheeses are often very large—from 60 to 220 pounds each, sometimes in blocks about twenty-eight inches or so long and eight inches square, but generally circular, the larger ranging up to four feet in diameter and six inches in thickness.

The genuine Emmenthaler, when exported, is never less than four months old. It keeps, under favorable conditions, for many years. It should be nutty in taste, and rather dry, but tender. The "holes" or "eyes," though generally characteristic, are not necessary to its quality, for many good Swiss cheeses are "blind," as dealers describe them.

ENGLISH DAIRY: a very hard cheese, prepared in about the same way as Cheddar, but cooked for a longer time. It is made quite extensively here, principally for culinary purposes.

GEDORT: a Norwegian cheese, small in size and solid in form, wrapped in foil.

GERVAIS: a French cheese made from a mixture of whole milk and cream. It is very lightly cured and is generally consumed fresh.

GLOUCESTER ("single" and "double"): is mild, somewhat buttery and not friable. It comes in large, round, flat forms. "Single Gloucester" is made from milk deprived of part of its cream. "Double Gloucester" contains all the cream.

GORGONZOLA: a rich cream cheese, akin to Roquefort and made in a somewhat similar manner, but milder in flavor and cheaper, produced in the mountain villages of Italy. The clayey outside surface of the whole cheese is a mixture of gypsum, tallow, etc., and is designed to aid in preserving it. Well-made Gorgonzola can be kept in good condition for a year or longer.

GOUDA: a Holland cheese made from whole or partly skimmed milk, coagulated with rennet and colored with saffron. It is pressed in round molds and weighs from ten to forty-five pounds. As marketed, each cheese is contained in a bladder or other covering of animal tissue.

GRATED CHEESE: any hard cheese grated for use with macaroni or other appropriate dishes. See also PARMESAN.

GREEN CHEESE. See SAGE CHEESE.

GRUYÈRE: the French make of "Swiss Cheese." See EMMENTHALER.

(1) Camembert (2) Cream
(3) Edam CHEESES (4) Cheddar

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A part of the golden field as seen from a window in the weigh-house tower. Each of the piles contains from 500 to 900 cheeses

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A pair of official porters taking a tray-load of cheeses to the weigh-house. The picture shows how carefully the piles are covered until and after the hour of the market

THE CHEESE MARKET AT ALKMAAR—the most important distributing point in North Holland for the round cheeses known in America as "Edam." The market is held every Friday, the cheeses being brought into town in great quantities, by boat and wagon, from the dairies of the surrounding districts. Before shipping, they are colored red or a brighter yellow, generally the former.

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Hundreds of cheeses curing in a dairy at Hasley, Denmark

KOSHER: a cheese made especially for Jewish trade. Its manufacture resembles that of Limburger, but it is eaten fresh.

KOSHER GOUDA: made for Jewish trade and bearing a special stamp for identification. It resembles Gouda, but has no bladder covering and is smaller—about 8½ inches in diameter and three inches thick, weighing four to six pounds.

LIMBURGER: was originated in the town of Limburger, Belgium, but little is imported nowadays as that of domestic manufacture is fully equal in quality to the European and is made at a cost of less than half that of the imported article. Literally thousands of tons of Limburger are now produced here every season—principally in the States of New York and Wisconsin and chiefly for consumption by our German-American population.

The process of manufacture in its first stages does not differ from the usual method of cheese making, except that a lower temperature than for most varieties is kept while the curd is forming, the animal heat alone in summer being often high enough. Great care is taken to use pure milk, free from taint, and cleanliness is requisite in every stage of the making. Upon the curd being formed, it is slowly and carefully cut into square pieces the size of dice, careful handling being necessary to avoid breaking the butter globules upon which the richness of the cheese depends. It is next slightly scalded and stirred, and most of the whey drawn off, then, without being salted, it is dipped out in perforated wooden boxes or molds, about five inches square, and left to drain without any pressure being applied. In a few hours the packages are carried into the curing cellar and placed edgeways on shelves, like bricks set to dry. Every day thereafter they are rolled in salt and replaced when they have absorbed enough. They are also turned almost every day, and the slimy moisture which exudes is rubbed evenly over the surface, serving the double purpose of keeping the cheese moist and closing all cracks in which flies might lay their eggs. This outside moisture decomposes while the cheese ripens, and being composed chiefly of albumen, like fresh meats, etc., the same results follow its decomposition, and the "Limburger odor" is developed—which never forsakes it and sticks closer than a brother to all who touch or eat it. After eight or ten weeks it is packed in paper and tin-foil, and is ready for market—in consistence, contents and nourishment the richest cheese that can be made, but to the uninitiated a malicious and premeditated outrage upon the organ of smell!

LIPTAU: a Bohemian cheese, made from goat's milk and usually heightened with red pepper or other condiments. It generally comes in small tin-foil packages, is rather greasy and has a sharp taste.

MENAUTA: a rich soft French cheese, imported generally in small round tins.

NEUFCHATEL: a soft French cream cheese, sold in tin-foil cylinders about three and a half inches long and weighing about five or six ounces.

PARMESAN: a hard Italian variety, used in grated form. It is made from skimmed milk, and hardened by slow heat. The rennet is added to the milk at about 120° Fahr., and after about an hour the curdling milk is set on a slow fire and heated to about 150°, when the curd separates into small lumps. A few pinches of saffron are thrown in to produce the desired color. About a fortnight later, the outer crust is cut off and the new surface is varnished with linseed oil, one side being painted red. Parmesan

cheese is an excellent accompaniment for macaroni and similar pastes and is frequently added to soups, etc.

Pineapple: a hard, highly colored cheese, made in various sizes and so named because the curd is pressed in pineapple shape. The diamond-shaped ridges are caused by the cord nets in which the cheese is hung up to cure. It resembles Cheddar in manufacture except that it is cooked much harder.

Pont L'Évêque: a soft French cheese, about 4½ inches square and 1¼ inches thick.

Port du Salut: a French cheese, seven to ten inches in diameter, with firm, tough rind but soft homogeneous interior.

Potted Cheese: a domestic cheese generally made by grinding well ripened cheese very fine, mixing it with butter, condiments and brandy or other spirits, etc., and putting up in small porcelain jars. See also Brandied Cheese.

Provole: a round or oval Italian cheese, weighing from four to six pounds, and resembling "Caciocavallo." Smaller cheeses, about two pounds each, are styled *Provoloni.*

Roquefort: a famous cheese, named after the French village of Roquefort, where great herds of the sheep that supply the milk are pastured on an immense plain of rich velvet-like herbage, which is stringently protected by both law and custom. Remarkable care and skill are employed in its manufacture. The herbage is supplemented by a diet of prepared food; the water supplied to the herds is whitened with barley flour and the yield of milk is stimulated in every possible way, even to beating the udders with the hands after milking.

There are many thousands of these sheep and very picturesque are the milking hours, morning and evening, when the army of pail-bearing maidens hurry over the fields, each in search of a favorite animal.

Every morning, in the farmhouse, the milk is skimmed, strained, warmed almost to the boiling point, emptied into enormous pans, stirred well with willow sticks, a portion of rennet added, and then covered and left to gather into curds—which an hour or so afterwards are cut up into pieces about the size of walnuts. Half a dozen other operations follow, then comes the "moldy bread" process, which produces the special characteristics of Roquefort.

The bread used is made of the finest wheat, or of winter barley, leavened with a large quantity of brewer's yeast, kneaded to excess and thoroughly baked. The crust is removed after standing a day and the crumb is pounded in a mortar and put away in a damp place till it is covered with mold. When it is ripe enough, the new cheeses are thoroughly rubbed with this moldy bread and layers of it are put between the layers of curd so that they may absorb still more of the mold.

After several days' pressing, the cheeses are wrapped in linen and dried, and then taken by the shepherd-dairymen to the village and sold to the owners of the vaults or caves—natural clefts or artificial excavations in the limestone rocks—hard by the town. In these caves, the cheeses are piled up and salted, being frequently rehandled and rubbed so that the salt may thoroughly impregnate them. They are next scraped and pricked with long needles so that the mold may run entirely through them, and then they are again piled up and left till they are perfectly dry, in this process developing a long white mold which is scraped off from time to time.

Very few, even of those who know the cheese well, are acquainted with all the pains taken to please their palates.

The best season in the United States for serving Roquefort is from October to May, but if kept in cool cellars it may be enjoyed all the year. It is generally eaten in small quantities at the end of a dinner. It is especially delightful if rolled with half its bulk of butter, sprinkled liberally with cayenne pepper and spread on toasted biscuits. It is also used to fill the hollow parts of stalks of celery, etc.

Sage Cheese: is made by the Cheddar process and in many shapes and sizes. Its distinguishing characteristic is its flavor of sage and its green mottled appearance when cut. The color is obtained either by mixing green sage leaves in the curd before pressing, or by the addition to the main curd of "green curd" obtained by the aid of the juice of green corn—in the latter case, the sage flavor being obtained by the use of sage extract. Parsley, spinach and marigold leaves, bruised and steeped before use, are sometimes employed in place of sage leaves.

Sap Sago Cheese: a small, hard green cheese, flavored with the leaves of a kind of clover, made in Switzerland. It is shaped like a truncated cone—four inches high, three inches across at the base and two inches at top. It is chiefly used for grating.

Smier-Kase. See Cottage Cheese.

Stilton: manufactured in Leicestershire, England, and the richest and finest of English cheeses. It is of a pale color, with veins generally marked by green, or bluish-green, fungus. It is made of raw whole milk to which cream from other milk has been added. It is greatly improved by age, and, to be enjoyed at its best, should not be eaten before it is two years old. A spurious appearance of age is often given it by placing it in a warm damp cellar, or by surrounding it by fermenting dung or straw.

Stilton cheeses are generally twice as high as they are broad, with surfaces brown and crinkled and weighing from twelve to fifteen pounds.

Ripened Stilton cheese is also sold finely ground and put up in jars holding from one to two and a half pounds.

Swiss Cheese or Schweitzer Kase: as understood in this country, is another name for "Emmenthaler" (which see) or "Gruyère." In Switzerland, the original place of manufacture, it indicates a minor grade, being made of half-skimmed milk instead of the full cream milk of Emmenthaler.

Troyes: is the name of two varieties of cheese—one known also as "Ervy," a washed cheese with a yellow rind; and the other called "Barberey" and closely resembling Camembert.

Vacherin. "Vacherin à la main," is a very soft cheese—the rind is hard, but the interior is spread on bread or eaten with a spoon. "Vacherin fondu" is made in about the same way as Emmenthaler, but the cheese after ripening is melted and spiced.

Westphalian: comes in small balls or rolls of about one pound each. It derives its peculiar flavor from the curd being allowed to become partly putrid before being pressed.

Westphalia Sour Milk: a hard sour-milk cheese, flavored by the addition of butter and caraway seed or pepper.

Wiltshire: resembles poor Cheshire or Gloucester. The outside is geneally painted with a mixture of reddle, or red-ocher and whey.

CHEESE CAKE: a cake or open pie with curd or cheese as the principal "filling" ingredient.

CHEESE SAFE: a wire cover framed in wood and hinged in the center. It excludes flies and mice and yet admits air. It does not exclude the "tasting customer" and a burglar-proof safe is one of the greatest needs of the trade!

CHERIMOYA: the fruit of a tree cultivated in Mexico, Central America and parts of South America, especially Peru. It varies from the size of an average apple up to a weight of fifteen pounds. The pulp is white, juicy and of exceedingly fine flavor.

It is probable that the Cherimoya will in the near future become very popular as with scientific culture there seems to be no limit to the excellence it may reach and, cut when fully developed but not ripe, it stands transportation well. With only very ordinary and careless methods, the tree averages annually a crop of a hundred or more fruits which are so delicious that they retail in Mexico at from three to eight (American) cents each.

CHERRY: a fruit which is believed to have originated in Persia. In this country, it is most popular raw, canned and otherwise preserved, and put up in liqueurs (as *Cherries in Maraschino* and *Brandied Cherries*). It is also stoned and dried, becoming then the "pitted" cherry of commerce and is the source or essential ingredient of various liqueurs, etc.—notably Maraschino and Kirschwasser.

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Picking the Cherries along the road, Westerhausen, Germany

The variety most esteemed as a dessert fruit and for canning, is the Wax Cherry, of light color with rosy cheeks, named for its beautiful waxy appearance. For purposes of distillation, preference is given to the wild cherry, which is smaller and less fleshy than the cultivated, but in the best types is very sweet and often decidedly aromatic, the most noted being the black Marasca cherry, of Dalmatia.

In the forest regions of France, the wild cherry is an important item of the local food supply, large quantities being consumed fresh during the ripening season and the balance of the harvest being dried for winter use, in jams, etc., and in the form of Cherry Soup—which consists substantially of bread and water with a little butter and dried cherries for flavor. In the valley of the Rhine, the schools often close when the cherry crop is ripe, so that both children and parents may gather the luscious harvest.

In this country, California and Oregon are constantly increasing their production as the dry climate of the orchard

CHERRIES

regions of those states permits the fruit to reach there its very highest perfection.

Recorded evidence does not go back far enough to say when wild cherries first became an object of the gardener's care. The early Romans were familiar with eight varieties and quantities of cherry stones have been found in the lake dwellings of Switzerland.

CHERVIL: a highly esteemed garden herb grown in all temperate climates and very popular in the South. It is similar to parsley, the Curled being even handsomer.

Chervil Bilbur, or *Turnip-Rooted Chervil,* is a French variety grown for its roots, which resemble the Parsnip in shape and color. It is a very desirable vegetable, the flesh being sweet and delicate in flavor and almost floury in texture.

CHESHIRE: a cheese akin to *Cheddar.* See general article on CHEESE.

CHESTNUT (*See Color Page II of* NUTS): the fruit of a tree which is found in several varieties in different parts of the world. The name is derived from that of the town of Kastana in Asia Minor, which is also more or less closely preserved in several other languages—as the French "Châtaigne" and the German "Kastanien." The nuts grow inside a prickly husk, generally two in each husk, ripening with the first frost.

The American chestnut is usually smaller, but generally sweeter, than the Spanish. The Chincapin is a very small dwarf variety of the American. The Japanese averages larger than the American and in sweetness may be generally classed between it and the Spanish.

In this country, chestnuts are eaten in various forms—raw, boiled, steamed and roasted. They are very nutritious, the dried nuts containing an appreciable quantity of protein, fat and sugar to supplement the starch which is their chief component. The sugar content frequently reaches as high as 15%, the fermentation of the juice yielding a fine granular sugar. They should though be well roasted or boiled for a long time, as raw they are exceedingly indigestible. See also MARRONS.

In some mountainous districts of Europe where cereals cannot be raised, the chestnut takes the place of grain to a considerable extent. The chestnut harvest is the event of the year on the slopes of the Apennines and Pyrenees—the gathering of the nuts being for three or four weeks the leading occupation of every mountain village. When all the trees have been

Chestnut Burrs bursting

stripped, the fruit is spread on frames of lattice-work and dried by keeping a fire burning underneath. It is then steamed, roasted, made into pudding—the original "Polenta"—or ground into flour for bread making.

In some parts of Italy the peasants use a cake made of chestnuts as a substitute for potatoes.

CHEWING GUM. The original "chewing gum" was spruce gum, the exudation of the cut branches of the spruce or fir tree. Later, pure white paraffin wax, variously flavored, took its place—but only in its turn to give way to the "chicle" now almost exclusively employed. Chicle is a gum which is obtained from a tropical tree botanically known as the *achras sapota*, a member of the family which gives the Sapodilla fruit (see SAPODILLA), and variously called the Naseberry and Sapodilla, growing most freely in Mexico, Central America and parts of northern South America.

Though its employment in the manufacture of chewing gum is of comparatively recent date, chicle was used by the Indians prior to the days of Columbus as a means of quenching their thirst. It was first commercially imported as a substitute for rubber, but its peculiar suitability for chewing gum has resulted in the entire product being consumed by that industry. In the year ending June 30, 1910, nearly five and one-half million pounds were brought into the United States.

The trees are "tapped" during the rainy season. The sap or juice as it exudes has the appearance of milk, gradually changing to a yellow color and about the thickness of treacle. The tree drains rapidly, the full supply of "milk" being generally obtained within a few hours, but an interval of several years usually elapses before it will yield a fresh supply. The milk differs from the juice obtained from the sugar maple, for example, in that it is not the life sap of the tree and the flow varies greatly, some trees which show full life yielding much less than apparently poorer specimens. "Crude chicle" is obtained by simple boiling and evaporation of the milk accompanied by frequent kneading, the product as pressed in rough molds being of a light gray color.

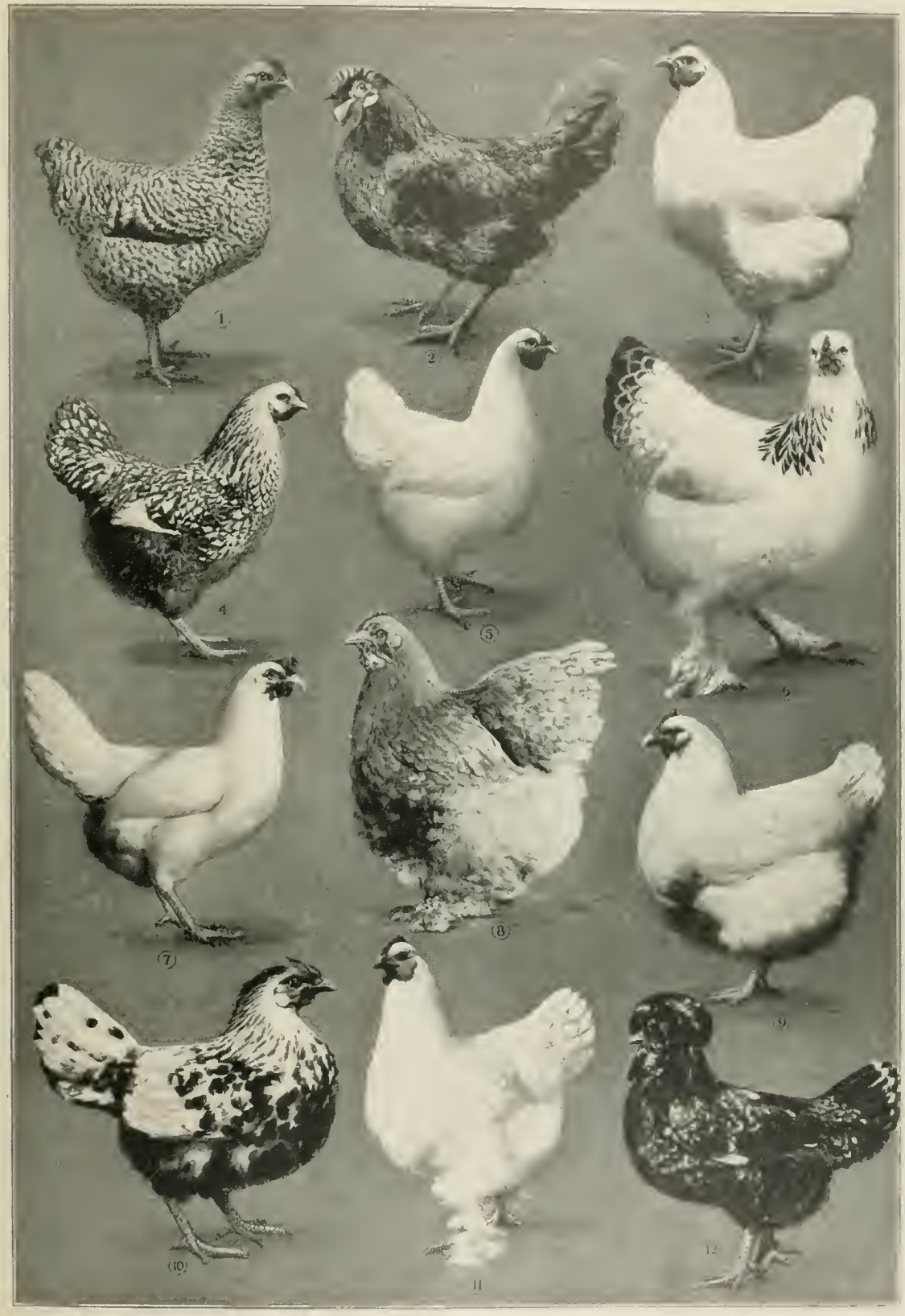
The bulk of the crude chicle manufactured is shipped in blocks to Canada, where it is further evaporated and carefully refined prior to importation into the United States.

In the chewing gum factory, the refined chicle is chopped or ground fine, screened and boiled to the right consistence in steam-jacketed kettles. The flavoring and sugar are then added and the whole is transferred to large centrifugal receivers in which it is whipped and kneaded into a dough. It goes next to the kneading tables where it is thoroughly "worked" with powdered sugar and then passed between rollers set with numerous small knives which roll it into sheets and cut it into marketable size. After a final drying, the pieces are ready for wrapping—generally performed by machinery, a single modern wrapping machine being capable of turning out an average of 20,000 packages a day.

It is estimated that chewing gum to a value of $40,000,000 was used in the United States during the year ending June 30, 1910, and present indications are that it will before long have attained almost equal popularity in Europe.

Some manufacturers of patent medicines are now successfully combining digestive and antiseptic ingredients with chewing gum.

CHICK PEA: the "pulse" of the Orient. See GARBANZA.



WELL-KNOWN VARIETIES OF CHICKENS

1—Barred Plymouth Rock
2—Black Minorca
3—White Plymouth Rock
4—Silver Wyandotte
5—White Wyandotte
6—Light Brahma
7—White Leghorn
8—Buff Cochin
9—White Orpington
10—Silver Spangled Hamburg
11—White Langshan
12—Black Houdan

CHICKEN. The word "chicken" formerly meant "young fowl," but usage has applied it to fowls of all ages, the young birds being designated as "spring chickens," "broilers," etc.

The fowl has been reared for food for so many centuries that its first conversion from its wild ancestors is lost in tradition. Poultry raising has been practiced in Europe from the earliest recorded times, and domestic fowl were plentiful in Great Britain long before the Roman invasion.

The best known types of chickens especially suitable for table purposes are the many varieties of the Brahma (very large birds), Cochin, Langshan, Dorking, Orpington, Plymouth Rock, Wyandotte and Houdan. Representative examples of all of these, except the Dorking, are shown on the page illustration preceding. Attention is also directed to the consideration of fowls from the standpoint of egg production in the article on EGGS.

To the general rules for selection given in the article on *Poultry* (which see) may be added that, thick scales on the legs, thin necks and dark colored thighs are signs of toughness in chickens. A good table bird should have a large full breast and, at other points also, a large proportion of meat to the size of the bones—long thin legs and wings are especially undesirable.

Many heated controversies have been held over the question as to whether drawn or undrawn poultry keeps better. The advocates of the "undrawn" method appear to have the best arguments on their side.

Chickens should be starved for at least twenty-four hours before killing. Those that have been killed with partially filled crops should be avoided, as the disintegration of the grain quickly discolors the flesh. In common with all other meats, chickens should be thoroughly cooled for a couple of days before cooking.

Dry-picked chickens will keep longer than scalded birds. The plucking should be performed immediately after killing.

Capons are considered a little choicer—more tender and of higher flavor—than ordinary fowl. They can be distinguished by the pale and shriveled appearance of the combs, the undeveloped condition of the spurs and especially round well-fleshed bodies.

Poulards, or Spayed hens, are in France considered particularly delicate also, but in this country they are not rated as much, if any, better than first-class pullets.

Milk-fed Chickens are those fattened for market chiefly on milk-soaked bread. Properly regulated, the diet gives birds with very delicate flesh.

A "Squab Chicken" should average ¾ pound to 1¼ pounds in weight; a "broiler" 1½ to 2; one to "sauter," about 2½ pounds; for "roasting" 3 pounds or so; and for fricassee, 4 pounds.

The meat of well fattened chicken of young and medium age has about the same nutritive value as beef, but it is generally considered easier of digestion and therefore especially suitable for invalids and convalescents.

American custom generally discards as refuse various parts of the bird which are considered of value in some other countries. The head of the chicken, for example, is in Europe often left on the bird when it is cooked, as the brain is considered a tit-bit; cocks' combs are everywhere recognized by French cooks as a delicacy worthy of preparation as a separate dish or especially desirable for garnishing; and the feet, skinned and dressed, are used for making broths, etc.

CHICKEN HALIBUT: a term generally applied to young HALIBUT (which see).

CHICORY. There are two main varieties of the Chicory family under general cultivation—*Cichorium Intybus,* native to Europe and *Cichorium Endivia* (see ENDIVE), native to the East Indies.

"Cichorium Intybus" is broadly divided into "Large-rooted Chicory," of which the two best known types are the Brunswick and Magdeburg, and "Common Chicory."

Large-rooted Chicory is cultivated chiefly for the sake of its root, which attains a length of ten to fourteen inches and a diameter of about two inches and produces the "chicory" consumed in large quantities as an addition to coffee (which see). It is kiln-dried, sliced, roasted with a little oil and ground into different sizes, from pieces the size of a coffee bean down to "fine pulverized." When raw it is white and fleshy in appearance, but when roasted it resembles roasted coffee. Unlike coffee, it contains no caffeine, but it has a bitter principle and a volatile oil and the roasting brings out an aroma.

Roasted chicory is highly absorbent of moisture, and should therefore be always kept in closed bottles or canisters, etc.

Chicory root is also used in Europe as a vegetable and the young blanched shoots, forced in dark cellars, principally in winter, are the *Barbe de Capucin,* "Monk's Beard," of the famous French salad of that name. A similar, though not quite so delicate, product is obtained by similar treatment of Common Chicory.

For Witloof Chicory see ENDIVE.

Common Chicory is the salad plant, grown for the young plant's narrow curly leaves, which are generally partly or wholly blanched in cultivation. It is also cooked sometimes as "greens." The title "Succory" is a corruption of "chicory."

Common Chicory

CHILI, or Chilies: the Mexican, and quite generally the popular, name for the pods of several species of small-fruited, specially pungent *capsicums* (which see), put up as a separate pickle or added to "mixed pickles," etc. They are largely consumed in hot countries. The two Mexican dishes containing them which are best known here are *chili con carne* and the *chicken tamale.* The word is also used as a group name for many articles highly seasoned either with whole capsicums or cayenne pepper, etc.

CHILI COLORADO SAUCE: a bottled sauce made of Mexican sweet red pepper pods finely minced in a vinegar pickle.

CHILI SAUCE: a bottled sauce made of peppers (green or red), ripe tomatoes, seasoning, etc.

CHILIAN MYRTLE: one of the best varieties of the MYRTLE (which see).

CHINCAPIN or Dwarf Chestnut: a low tree, bearing fruit the size of a hazel nut. A number of species are native to the East. It does not grow south of Maryland. See CHESTNUT.

CHINESE FIG: one of many titles for the Japanese Persimmon (see PERSIMMON).

CHIPPED BEEF: a term applied to thin-sliced DRIED BEEF (which see).

CHITTERLINGS: sausages made of pig intestines (see SAUSAGES).

CHIVES, or Cives: a plant of the onion family, cultivated principally for its leaves, which grow in thick tufts resembling grass in appearance but hollow like onion leaves. It is a good substitute for onions, especially in soups and stews.

A tuft of Chives

CHLOROPHYLL: the natural pigment which imparts the green color to leaves and plants and enables them to obtain nourishment by converting to their use the chemical components of the soil. Plants not endowed with Chlorophyll are unable to nourish themselves and must feed on vegetables or animal matter (see FUNGI).

Chlorophyll is commercially used to give a green tint to oils, etc.

CHOCOLATE. See COCOA AND CHOCOLATE.

CHOP: as applied to tea, etc., signifies either the grade—"first chop" then signifying "first quality"—or a special brand or lot. The word originally signified a Chinese custom-house pass or mark.

CHOP SUEY: a thick stew typical of the Chinese restaurant in the United States. The ingredients vary greatly in different establishments, among the many possibilities being chicken trimmings, other meats of any kind, bamboo shoots, mushrooms, rice, etc.

CHOW-CHOW: a mixture of pickles of various sorts in mustard. Also, and originally, a Chinese sweetmeat consisting of pieces of orange-peel, ginger, etc., in syrup.

CHOWDER: a dish composed of fish, pork, onions, biscuit, etc., stewed together, popular in all parts of the country, but especially appreciated on the New England coast, where "clam chowder" and "fish chowder" parties are very common. In New England, cider is sometimes added to the stew. The name comes from the coast of France, where the *Chaudière* is a large cauldron in which the fisherfolk cook a very similar mixture of fish. Chowder is now sold canned.

CHUFAS, Earth Almonds, Rush Nuts: the tuberous roots, about the size of beans, of a sedge common to Southern Europe. They rank high in nutrient qualities, and are equally acceptable fresh and dried.

CHUTNEY: a pickle originally made in India, that country still being the source of a number of the finest grades. It is generally based on mangoes with the addition of many other items, such as tamarinds, raisins, ginger, spices, etc. The formula varies greatly with different manufacturers. The Ceylon product is frequently flavored with garlic. Domestic products include Apple Chutney and similar types.

CIBOL: another name for the WELSH ONION (which see).

CIDER: is the juice of apples, both fermented and unfermented. "Sweet Cider" may be either unfermented or with fermentation checked at an early stage so as to leave unchanged a considerable amount of the sugar in the juice. "Hard Cider" is that in which fermentation has continued until all the sugar has been changed into alcohol (and carbon-dioxide) and is consequently sour to the taste. Unfermented cider is frequently styled "apple juice" to distinguish it from fermented "sweet cider."

Cider is obtained by chopping and grinding apples to a pulp, and then pressing in a mill. A dark liquid is obtained which, unless sterilized for "apple juice," will at once begin to ferment and in a few days become the liquid known to commerce as fermented "sweet cider." Great care is again necessary to preserve it in that condition or it quickly develops into "hard cider."

Fermented sweet cider contains from 4% to 8% alcohol and also malic and acetic acids, sugar salts and extractives. Among the most popular, are clarified types such as Champagne Cider, Sparkling Cider and similar imitations of Champagne, generally put up in champagne bottles, with the corks wired down and covered with tin-foil. It should be stored in a cool place, and it greatly improves with age.

Bulk Cider should be kept especially cool, as otherwise it is apt to sour after being tapped. At a temperature of about 75° Fahr., it will gradually become vinegar.

If the head of a cask is swollen by pressure from within, a hole should be bored in it to relieve the pressure and prevent leakage.

Cider for bottling should be of good quality, sound and piquant, and at least twelve months old. Before bottling, it should be examined to see if it is clear and sparkling. If not, it should be clarified (see CLARIFICATION) and left for a fortnight. The bung should be taken out of the cask the night before the bottling day, and the filled bottles should be held a day before being corked down—these precautions are necessary to save the bottles from being burst by pressure. Only the best corks should be used.

When cider is wanted for immediate use, or for consumption during the cooler portion of the year, the bottles may be corked within two or three hours after being filled, but in summer, or for long keeping, this practice is inadmissible.

To keep new cider from fermentation, powdered wood charcoal in the ratio of a pint to a barrel is recommended. Place in a cotton bag and suspend in the barrel.

A small quantity of cider is annually imported, chiefly from Spain and Germany.

CIDER VINEGAR. See general article on VINEGAR.

"C. I. F.": signifies charges or allowances for Cost, Insurance and Freight.

CIGARS. A cigar department, if properly managed, generally pays good profits to the grocer. Tobacco in every form has always been sold by grocers in the smaller towns—and there is no good reason why cigars at all events should not take their place among other staples in the larger cities also. The purchase of cigars is not a general household expense, but it often falls to the lot of the housekeeper to supply them, and it is a convenience to her to be able to buy in a store to which she is accustomed and in which she feels confidence.

Further, a clean, up-to-date grocery store selling a good class of wines and liquors and a good line of cigars, quickly attracts a very profitable trade from the men themselves. First one and then another will drop in to order some wine or some spirits sent "up to the house" and if the cigar case is attractive, a purchase follows almost as a matter of course. Proper treatment and first-class goods will mean keeping a large proportion of them as steady customers.

To retain men's trade for the cigar department, a grocer must, however, give it even more careful attention than if he were a cigar dealer exclusively. A man getting a bad cigar at a regular dealer's, may attribute it to chance or even to himself as being off taste—but if he has purchased it from his grocer, he is immediately confirmed in his previous general impression that you "can't expect to get a good cigar in a grocery store." Eternal vigilance is decidedly the requirement for obtaining and keeping this line of custom—but it is worth it!

The merchant adding this line for the first time will do well to avoid the rather general error of putting in too large a stock. The result is liable to be that cigars are held in the show-case longer than is good for them, with a consequent loss either of money invested or of your reputation as a purveyor of *good* cigars! A small stock of a few well-selected lines of moderate price is the best plan. Cigars improve with age to a certain point in especially equipped establishments—but not in the average retailer's store.

The next essential is to see that the cigars are kept in good condition. The method depends upon circumstances and localities. In summer, for example, the problem in coast towns is to keep them from becoming too moist—whereas in inland states it is to prevent them from drying out.

A Havana Cigar Factory

Putting the bands on Cigars

In winter, with artificial heat, artificial moisture is essential nearly everywhere. An open pan of water in the case, with rolls of blotting paper reaching to the top of the case, will answer the purpose if you do not possess one of the several styles of cigar moisteners.

Too much moisture—keeping cigars in a damp place—is as bad as drying them out, for even the best varieties will become heavy, soggy and rank-flavored.

They must also be kept away from any articles of strong odor, such as cheese, fish, spices, coffee, tea, etc.—and place fine cigars in a separate case, as contact with coarser grades will tend to spoil their flavor.

The principal divisions of cigars are into (1) those imported from Cuba, (2) clear Havana cigars manufactured in a climate as nearly as possible like that of Cuba (as Key West, Tampa, etc.), and (3) domestic. To these may be added a growing demand for the Porto Rico and Philippine products.

For commercial purposes, cigars are again divided into three grades of tobacco —dark, medium and light—these including forty or fifty shades grouped under the seven following sub-headings:—

Oscuro, very dark.
Maduro, dark.
Colorado maduro, dark brown.
Colorado, medium dark brown.
Colorado claro, light brown.
Claro, very light colored.
Double claro, or *amarillo*, lightest of all (this grade seldom seen).

A light-colored wrapper does not necessarily signify a specially "mild" cigar. It is the "filler" which determines the strength—and both light and dark tobacco is liable to be bitter and strong if it has not been properly ripened and cured.

There is practically no limit to the number of sizes or shapes in which cigars are made, as any manufacturer may bring out as many styles as he pleases and name them to suit his own particular fancy. The prevalence of Spanish names and terms is due to the fact that for many generations all the best cigars were manufactured in and exported from Cuba and other Spanish-speaking countries.

It is impossible to give any fixed set of rules for judging the quality and value of cigars and tobacco. The best and only conclusive test—that used by manufacturers

themselves—is smoking one or two samples to ascertain the virtues or defects of any particular variety. Consequently, unless a merchant is personally a critical smoker and a good judge of cigars, he can be guided only by the reputation of the importer, manufacturer or jobber, and the comments of his customers. The safest plan is to confine orders to houses of long-established and irreproachable reputation. Many a promising cigar department has dwindled to an ignominous finish in the effort to make bigger profits by purchases of cigars "just as good and $10.00 a thousand cheaper" from plausible manufacturers of the opposite type.

The merits of color, size and shape as a "selling" proposition must be gauged by the popular and individual tastes of consumers.

(See also article on TOBACCO.)

CINNAMON (*See Color Page of* SPICES) : is the spicy bark of young branches of the Cinnamon Tree, cut off in strips and dried in the sun, curling during the process into the quills with which the consumer is familiar. Ceylon Cinnamon is obtained from *Cinnamomum Zeylanicum*, native to Ceylon but also cultivated to some extent in the East Indies. Cassia Cinnamon is from *Cinnamomum Cassia*, the chief East Indian and Chinese type. Both kinds are sold both in quills and ground, their fragrant aromatic flavor making them a popular adjunct in cookery, confectionery, etc.

Ceylon Cinnamon is the variety referred to in the general article on SPICES as, in earlier days, a commodity of great value and the cause of many wars and much bloodshed. It was first carried to the world's markets by Arabs, who kept its source a close secret for a number of centuries and contrived to discourage possible investigators by stories of fabulous monsters inhabiting the country from which they were supposed to obtain it. That the tree grew wild in Ceylon, was not generally known until the 14th century, in spite of the fact that the spice had been continuously in use since the early days of Israel, Greece and Rome.

Ceylon Cinnamon is of a pale yellowish-brown color and generally of lighter, cleaner and smoother appearance than Cassia. The quills (the smaller enclosed in the larger) are also usually thinner and more tightly rolled, but these distinctions are not absolute, as there are many different grades of Cassia.

Cassia Cinnamon was until recent years decried as an inferior imitation, principally because the greater part of the supply consisted of the inferior and poorly prepared China product. It has however just as good botanical title to the general name of "Cinnamon" as the Ceylon type, and, as the result of the fine quality now exported from French

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A pile of peeled Cinnamon sticks, Ceylon

Cochin-China and the Dutch East Indies, it is to-day given the preference in the United States and in several European countries, because its flavor is more pronounced and more lasting—the Ceylon is milder and so much more volatile that it loses readily on exposure to the air. The demand for Ceylon Cinnamon has indeed so lessened that commercial interests are urging the cultivation of Cassia in Ceylon in order to maintain the island's position in the trade. In analytical circles the Ceylon variety is still conservatively described as "True Cinnamon" instead of by the commercial term "Ceylon Cinnamon."

The lower grades of Cassia are cheaper than any of the Ceylon generally marketed, but the best qualities are more expensive. The four main grades are those known as *Saigon*, or Saigan, from French Cochin-China (the choicest): *Corintje* and *Batavia* of the Dutch East Indies, and *China* (the cheapest). Saigon Cassia is generally used for blending with lower grades.

CISCO: a small lake fish resembling in size and appearance the fresh-water herring. In some localities it is known as "whitefish."

Cisco

CITRANGE: a new member of the citrus family (which includes oranges, grape fruit, lemons, etc.), produced by cultivation. It resembles an orange in general characteristics but is more tart in flavor. It is also described as a "hardy orange," because the trees which bear it can withstand lower temperature than the ordinary orange tree. The fruit is used for making summer beverages, for cooking, etc.

CITRIC ACID: is obtained chiefly from lemons and other citrus fruits but is present in a majority of acidulous fruits such as currants, cranberries, etc.

CITRON: a fruit which is cultivated chiefly for its thick, spongy rind, which in candied form—then thick, tender and of delicious flavor—is popular for use in cakes, preserves, etc. It is also employed in the making of fruit syrups, liqueurs, etc. There are many varieties of the fruit, which is generally warty and furrowed in appearance, with pulp similar in flavor to that of a lemon but less acid, in the largest types attaining to a length of nine inches and weighing up to twenty pounds. It grows freely in sub-tropical climates but is seldom seen by the average consumer in its fresh condition. A small quantity is produced in California but the bulk of the supply is imported.

The variety known as Leghorn Citron comes from Corsica and Sardinia, where the fruit is cut up, barreled in salt pickle and shipped to Leghorn. After remaining for a month or more in the pickle, the rind, freed of seeds, etc., is boiled until tender and then set to soak in slightly sweetened water in order to extract some of the salt. The following day it is removed to a second solution and the next day to another, the process being repeated for a week or more, each new solution being a little sweeter than that preceding. The rind is finally boiled for a short time in heavy syrup and thence goes to racks in a heated room to dry and crystallize. The following day it is ready for packing, being put up in various styles for different markets.

The unripe fruit of the ungrafted citron tree is the "Citron of the Law" used by many Jewish communities in the ceremonies during the Feast of the Tabernacles.

CITRON MELON: used for preserving. See article on MELONS.

CITRUS: a genus of plants which produce a great number of useful fruits. *Citrus Aurantium* is the family name for the trees which give us sweet oranges; *Citrus Bigaradia* is the bitter or Seville orange; *Citrus Limonum*, the lemon; *Citrus Limetta*, the lime; *Citrus Medica*, the citron; *Citrus Paradisi*, the grape fruit; and *Citrus Japonica*, the kumquat.

CLAM: the most common American shellfish, eaten fresh in enormous quantities and also extensively consumed in canned form, especially in the West. Its great popularity has resulted in a demand that has in some sections exceeded even the bountiful natural supply, and many of those who make a business of supplying the market have turned to "clam farming" on the tidal mud flats.

Clams imbedded in the mud—as exposed by digging

The *Hard Clam*—called "quohaug" in some parts of the East and "poorquaw" in Nantucket—is the variety generally offered in city markets. The small or young clam is the more tender and in most demand for eating raw, the larger clams being generally used for soups, chowders, etc. Where quality is paramount, the hard part of the large clam is often cut off and discarded.

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Digging Clams at low tide

Hard Clams are also generally known as "Little Neck" clams in contrast to the Soft Clam, which has a long distendible neck.

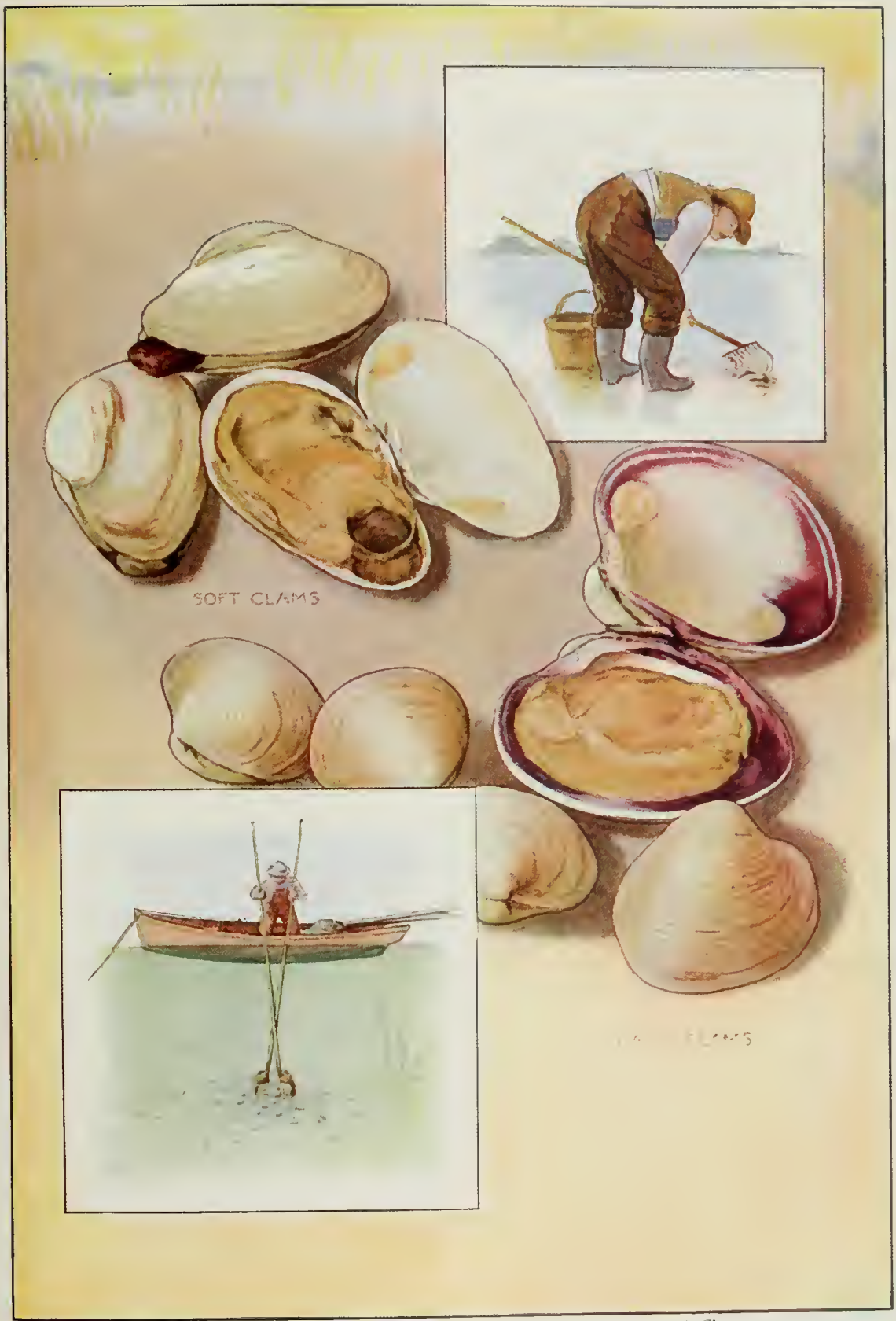
Soft Clams, also called "Soft Shell Clams," have shells which are thinner, flatter and less round in shape. They are used in a similar diversity of ways—on the shell, broiled, fried, stewed, steamed, etc. Small, inferior grades are strung on cords and sold at a low price by the "bunch" for soups, etc.

The eastern supply of clams comes from Long Island and the New England coast.

CLAM BOUILLON, or Clam Broth: an excellent article when put up by reliable firms. Drunk hot, it is a good remedy in many cases of indigestion.

CLAM CHOWDER: a stew of clams and various other items. See CHOWDER.

CLARET. What we call "claret" is known in France as *Vin de Bordeaux*, "(Red) Bordeaux wine," sub-divided by the names of *cantons* or *communes*, as "St. Julien," etc. The term "claret," an Anglo-Saxon name originally applied only to red Bordeaux wines, is a corruption of *clairet*, a French word applied in France to any light pale wine



Tonging for Hard Clams

Digging Soft Clams

and also to various infusions of aromatic plants with wine, honey or sugar, etc.

In France, the term "Bordeaux wine" is applied generally to that produced throughout the entire southwest, but the best comes from the Department of the Gironde, of which the city of Bordeaux is the capital, and of the Gironde wines a large majority of the finest red types, are from the Médoc section, which includes the *communes* of Arsac, Cantenac, Labarde, Ludon, Macau, Margaux, Pauillac, Pessac, St. Estèphe, St. Julien et Beychevelle and many others of note. Less in quantity, but almost equally famous, are the red wines from the vicinity of St. Emilion.

Red Bordeaux wine, or Claret, is famous both for its bouquet and as a table beverage generally acceptable even to the poorest digestion. Its tonic effect is attributed to the characteristic combination of tannin with a certain low percentage of alcohol. It varies greatly in price according to the special vintage, etc., but its general usefulness is enhanced by the fact that, though the fine bouquet of the expensive types is not found in the cheaper grades, the food value of all grades is practically the same—the composition shown by analysis varies little, no matter what price is paid.

Clarets are broadly classified as "Château," "Bourgeois" and "Ordinary" or "common." *Château*, are those bearing the name of the château or estate on which they were produced. *Bourgeois*, represent the great bulk of medium grade wines and are generally named according to the district of production. "*Ordinary*" or "*common*," are those made by peasant growers, etc. The last-named are seldom exported.

The best *Château wines*, the *Vins classés*, the total product of which is small in comparison with the great bulk of Bordeaux wine, are divided into the five representative "crus"—classes or "growths"—given below. No formal revision of this classification has been made for many years, but it is still essentially correct, in spite of inaccuracies in the nomenclature of a few of the Châteaux of the second to fifth crus.

FIRST CRU.	COMMUNE.
Château Margaux	*Margaux*
" Lafite	*Pauillac*
" Latour	"
" Haut-Brion	*Pessac*
SECOND CRU.	
Château Brane-Cantenac	*Cantenac*
" Durfort-Vivent	*Margaux*
" Lascombes	"
" Rauzan-Gassies	"
" Rauzan-Ségla	"
" Lalande	*Pauillac*
" Mouton-Rothschild	"
" Pichon-Longueville	"
" Cos d'Estournel	*St. Estèphe*
" Montrose	"
" Ducru-Beaucaillou	*St. Julien*
" (Gruaud) Larose	"
" Gruaud-Larose-Sarget	"
" Léoville	"
" Léoville-Barton	"
" Léoville-Poyferré	"

THIRD CRU.	COMMUNE.
Château Cantenac Brown	*Cantenac*
" d'Issan	"
" Kirwan	"
" Palmer	"
" Giscours	*Labarde*
" La Lagune	*Ludon*
" Becker	*Margaux*
" Desmirail	"
" Ferrière	"
" Malescot-St. Éxupéry	"
" Calon-Ségur	*St. Estèphe*
" Langora	*St. Julien*
" Lagrange	"
FOURTH CRU	
Château Poujet	*Cantenac*
" Prieuré	"
" Marquis de Terme	*Margaux*
" Duhart-Milon	*Pauillac*
" Rochet	*St. Estèphe*
" Beychevelle	*St. Julien*
" Branaire-Duluc	"

FOURTH CRU—*Cont'd.*	COMMUNE.
Château Saint-Pierre	*St. Julien*
" Talbot	"
" Latour Carnet	*St. Laurent*
FIFTH CRU.	
Château Du Tertre	*Arsac*
" Dauzac	*Labarde*
" Cantemerle	*Macau*
" Batailley	*Pauillac*
" Clerc-Milon	"
" Croizet-Bages	"
" Ducasse-Grand-Puy	"
" Grand-Puy	"
" Haut-Bages	"
" Lynch-Bages	"
" Lynch-Moussas	"
" Mouton-d' Armailhacq	"
" Pédesclaux	"
" Pontet-Canet	"
" Cos-Labory	*St. Estèphe*
" Belgrave	*St. Laurent*
" Camensac	"

Cachet du Château wines are those bottled on the Château or estate and bearing its crest or trade-mark. Other exported Château wines are generally matured and bottled by wine merchants, many of them of long standing and international reputation.

Some Cachet du Château wines command very high prices, but it must be remembered that though the château bottling guarantees the genuineness of a wine, it does not necessarily vouch for its being of high value, as its merit depends upon the quality of the year's vintage. A Château claret of an especially good year is often a

great deal more expensive than the same Château's production of the year before or after.

Also, some of the finest wines are those matured and bottled by high class wine merchants, who buy largely in bulk when a vintage—either or both Château or Bourgeois—promises to be desirable. In such cases, the reputation of the wine merchant takes the place of that of the Château as a guarantee of its quality.

The high repute of the fine Château types is due to the extreme care exercised at every stage—in the selection of the vines and their cultivation, as well as in the making and maturing of the wine itself.

Bourgeois wines are generally divided into "first," "second" and "third" grade. The types best known here are the various grades of Médoc, St. Julien, St. Emilion, St. Estèphe, Margaux and Pontet Canet.

To understand the wide variation in price of clarets bearing the same general name, it is only necessary to remember that French claret titles are chiefly geographical and that, quite naturally, many grades may be found in the same locality. For example, one of the cheapest grades of French clarets imported is generally known here as "Médoc"—and correctly so if the wine comes from the Médoc section—but, as noted in the second paragraph, the same section produces also nearly all the very finest French clarets—those of the first "cru" or grade being in France specifically known as *Vin du Médoc*, or "Médoc wine." Similarly, a St. Julien may be a moderate-priced wine bearing only the name of a district, or an expensive one with a Château title. In addition, is the variation from year to year in the quality of the wine produced.

The purchaser who is not a connoisseur is consequently guided either by the reputation of the firm selling or by that of the Château, if buying Château-bottled wine.

Fine clarets will keep and improve for about fifteen years or a little longer. After that, they generally deteriorate very rapidly. They should never be used immediately after delivery, as they require at least two weeks to settle and become clear. They should, like Burgundy, be drunk at the temperature of the average dining room.

The best grades will contain about half a wine-glass of thick wine and sediment in each bottle, and care must be exercised to avoid mixing this up when carrying from the cellar and when pouring into the glass or decanter, or the wine will appear dull and have a rough, bitter taste. See general article on WINES (*decanting, etc.*).

The lower priced clarets form an especially refreshing summer drink, served either undiluted or liberally mixed with water.

America produces a large quantity of excellent wine of Claret type, variously labelled according to the fancies of the makers. Some varieties masquerade under French claret names, as "St. Julien," "Margaux," etc. Others bear the more honest titles of the grapes principally employed, as "Norton," "Ives," "Concord," etc., in the East and South, and "Cabernet," "Zinfandel," etc., in California, or special trade or locality names. The bulk of American claret is produced in the coast range district of California (see AMERICAN WINES).

The practice of diluting with water is particularly suitable for American claret when consumed as a general table beverage, as it is usually stronger in alcohol than French claret.

See also BORDEAUX WINES (white).

CLARIFICATION, or **Fining:** the act of making "clear" or "bright," applied especially to "clearing" or "fining" liquids by the addition of albumin, gelatine or isinglass.

etc. The substances used in the process are known as "finings" and their operation is similar to the "settling" of coffee by the addition of egg-albumen (egg-white). When added to wine, for example, the result of the "fining" is to remove part of the tannin —the latter coagulates the fining and the mass drops to the bottom, leaving the liquid clear. Clarification is a very delicate process, because the removal of too much tannin injures the liquid, yet if too much is left, it becomes cloudy again.

Boneblack, Charcoal, Bullock's Blood, etc., are still largely used in the clarification of sugar, but centrifugal force is the principal agent in modern refineries. See general article on SUGAR.

Many liquids are clarified by filtering through cloth, silk, etc.

CLOVES (*see illustration in Color Page of* SPICES). Cloves, widely used for flavoring desserts and confectionery and medicinally, are the dried flower buds of the clove tree. As plucked, they are reddish in color, but this changes to the familiar dark brown in the process of drying, performed either by the smoke of wood fires or by exposure to the sun.

The clove tree, an evergreen, grows to a height of forty feet, bears its developed clove buds in its seventh year, and gives two crops annually, increasing its productiveness up to an age of nearly a hundred years.

The clove industry was for many centuries confined to very narrow limits. A few islands of the Molucca group furnished the world's supply up to the beginning of the seventeenth century; then the Dutch, having driven the Portuguese out of the "Spice Islands," tried to destroy all the clove trees except those on the Island of Amboyna, to perfect their monopoly.

Later, the Island of Zanzibar became an important producer, but for a number of years following 1872 it was again unproductive as the result of a cyclone which uprooted nearly all of the mature fruit-bearing trees.

An interesting result of the cyclone was the release from the Dutch government warehouses at Amboyna of surplus cloves that had been accumulating there for generations—no sales having been permitted except when the bids reached the prices set by the government. The markings on some of the barrels received at that time in New York showed that they belonged to the surplus of crops reaching back nearly a hundred years—some of the barrels were ready to fall to pieces, but the cloves were in excellent condition.

The principal sources of supply today are the Islands of Zanzibar and Pemba (British East Africa) and the East Indies (both Dutch and British).

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A Clove plantation in Zanzibar

The best grade of British is that known as Penang; that of Dutch is Amboyna. Dark, well-formed cloves are the best.

Mother Cloves is the dry ripe fruit. It somewhat resembles the olive in appearance. Its flavor is similar to, but much weaker than, that of the ordinary clove.

CLYSMIC. See general article on table and medicinal MINERAL WATERS.

COAL TAR: a by-product of the manufacture of coal-gas and coke, was first noted in the latter part of the sixteenth century by a German chemist named Johann Joachim Becher. For a long time it was though practically a waste substance, ill-smelling, black and sticky, of no market value and difficult to dispose of in any way, as it polluted rivers and destroyed vegetation.

Towards the middle of the nineteenth century, the pitch and lighter oils obtained by distilling it became of importance in the roofing, paving and chemical industries, eventually being used for making briquets and for wood preservation, waterproofing, preservative coatings, etc., but its real history commences with the founding of the Coal Tar chemical industry by Sir Henry Perkin in 1856. Since that date science has produced from it an innumerable variety of chemical compounds of the most diverse characters and uses—comprising dye-stuffs, antiseptics, explosives, medicines, some of the most fragrant of perfumes, saccharin (a substance 300 times sweeter than sugar), flavoring extracts, etc., etc.

The flavoring extracts produced include vanillin or artificial vanilla, cinnamon oil, oil of bitter almonds, coumarin, oil of wintergreen, essence of orange blossoms, essence of rhubarb, etc. The list might be indefinitely extended, for it has been stated by a prominent chemist that a majority of the foods listed on the average bill of fare, could be counterfeited in flavor by the use of Coal Tar preparations.

COCA: the leaves of the coca plant, *Erythroxylon*, a bush resembling the blackthorn, which grows to a height of five to eight feet. They are thin, opaque and oval, tapering somewhat like tea leaves in the best types, a light olive-green above and whitish-green on the under-surface. When dried, they have an odor resembling that of tea leaves and an aromatic bitter taste. They are employed medicinally and in the manufacture of various tonic beverages for their stimulating property—which is akin to caffeine or theine but is held in the leaves in larger proportion than caffeine in coffee or theine in tea. The natives of various parts of South America, particularly Peru, chew the dried leaves, generally together with a little pulverized unslacked lime, for the ability they give to resist fatigue. Though this use has apparently been a daily custom for uncounted generations, it is seldom that any ill effects are noted. The principle chemically extracted is the drug Cocaine.

COCHINEAL: the best example of coloring from animal sources. See CARMINE.

COCKIE-LEEKIE: a Scotch soup of which the "character" ingredients are fowls, leeks and seasoning.

COCKROACH: an orthopterous insect which may be classed among the most offensive and objectionable of domestic pests. It is extremely voracious, not only devouring all kinds of provisions, but destroying silk, flannel and even cotton fabrics in the

absence of anything more edible. It is nocturnal in its habits and exceedingly active and swift of movement, its flattened form enabling it to insinuate itself easily into crevices and thus escape detection. It is found in many varieties and in every part of the world—from the Frozen North, where it is often responsible for the destruction of the winter's supply of dried fish, to its most favored habitat, the tropical zone.

The three chief domesticated species found here are, *Blatella Germanica*, the small variety known as the German Cockroach, Water-bug, Croton-bug, etc.; *Blatta Orientalis*, the Common Cockroach or "Black Beetle"; *Blatta Americana*, the American Cockroach, which averages the largest of the common varieties, and *Periplaneta Australisae*, or Australian Cockroach. In spite of their geographical titles, these four are now international in distribution. The Australian Cockroach is not so frequently seen in northern states, but it is the most plentiful and obnoxious in Florida and other parts of the South.

Except for differences in size, the domesticated roaches of temperate climates resemble each other in general characteristics, but the wild roaches of the tropics present a wonderful diversity of size, color and shape, one species attaining the enormous length of six inches. Another large, partially domesticated variety found in the West Indies is locally known as the "drummer," from the tapping noise it makes on wood—the sound thus produced, when joined in by several of the creatures, as it usually is, being sufficient to destroy the slumbers of a household.

The only certain way of ridding an apartment or store of roaches is by fumigation, the two most widely approved agents being hydrocyanic acid gas and bisulphid of carbon, but this method is not always practicable or convenient. If the warfare against them is conducted persistently and systematically, they can generally be driven away or destroyed without fumigation, by the distribution of small pills of Phosphorus Paste, or by the use of Flowers of Sulphur, fine powdered Borax or Persian Insect Powder, blown by bellows into cracks and crevices in the floor, woodwork, walls, etc., and distributed in all corners and obscure parts of rooms and closets.

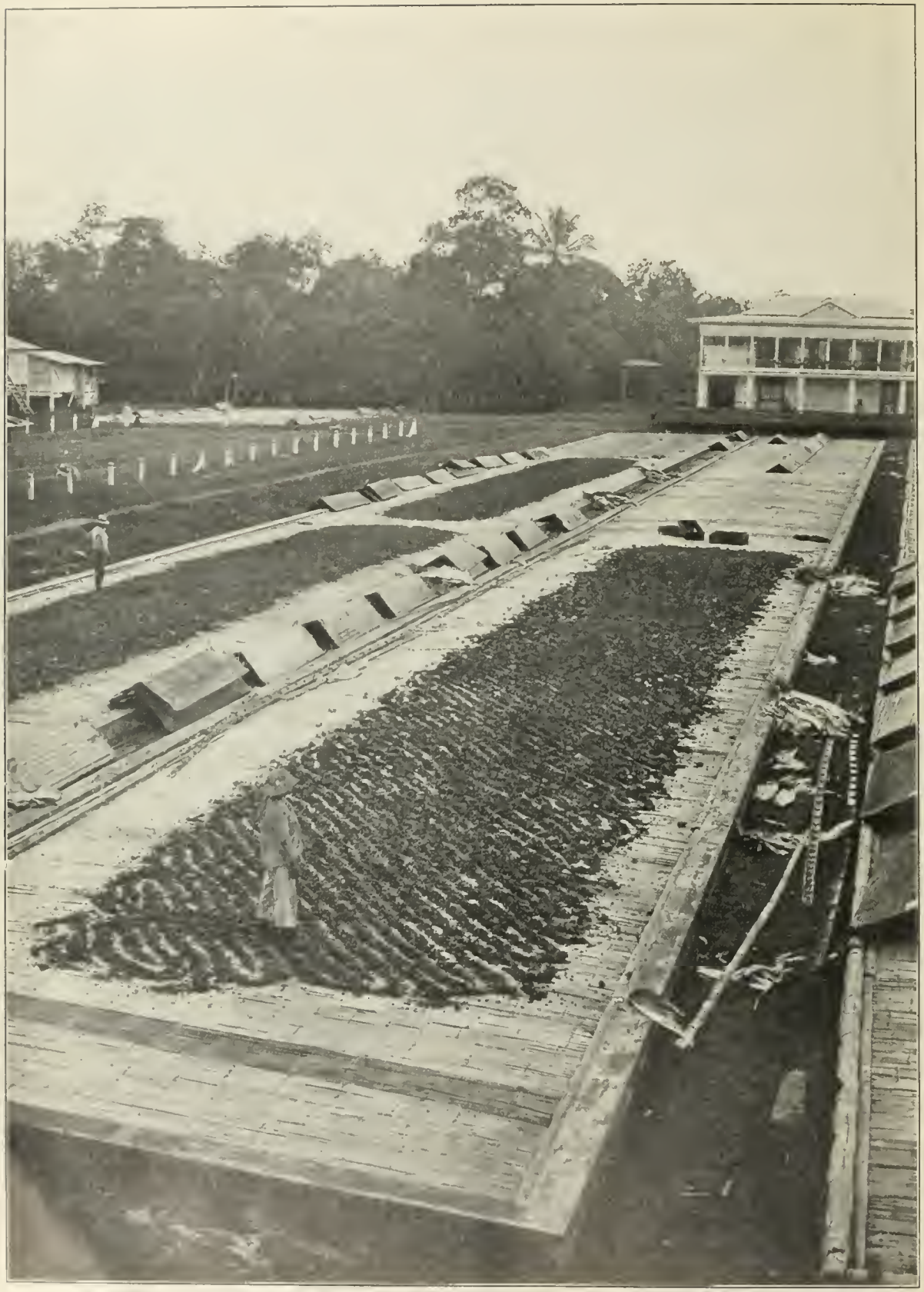
Another method is to smear a piece of wood with syrup and float it in a broad basin of water before retiring. When fires and lights are extinguished, the roaches come out of their holes and drown themselves in the water in their efforts to reach the bait. The chinks and holes from which they have come should be filled with unslacked lime. Traps of this—or any other—character are though seldom efficacious against the very astute Water-bug.

COCKLES: an English shellfish, imported cooked in small flat cans. When taken from the can, they are washed thoroughly in cold water, frizzled in butter and served hot on toast—or in rice, curried, etc. Cockles are new to the American public, and, unless the housewife is warned to wash them thoroughly, they will not be appreciated.

COCKSCOMBS: the crests of the male domestic fowl, cut off and blanched. They are retailed in bottles by fancy grocers, for use chiefly as a garniture.

COCKTAIL: a "mixed drink" now largely sold in bottles. The best known are the Manhattan and Martini—the former being composed of whisky and vermouth, and the latter of gin and vermouth—in addition to bitters, syrup, etc., in each case. A "dry" cocktail is one made without syrup.

The word is also applied to a service of oysters, etc., in a glass with a special sauce.



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DRYING COCOA BEANS ON BAMBOO FLOORS, LA CLEMENTINA, ECUADOR

COCOA AND CHOCOLATE. The word "Cocoa," now universally used in English-speaking countries, is a corruption of "Cacao"—the full botanical title being "Theobroma Cacao," which, translated, is "Cocoa, the food of the Gods," clearly demonstrating the early recognition of its high food value!

Cocoa beans were used as food in Mexico, the West Indies and elsewhere long before the discovery of this hemisphere by Columbus. The earliest references to it are found in the writings of the explorers who followed him—tradition has it that the first to tell of the new beverage was Bernal Diaz, one of the Spanish officers with Cortez, who observed Montezuma quaffing a concoction of it from a golden cup. Its use was soon an established custom in Spain and Portugal, which are to this day large per capita consumers of cocoa and chocolate, and as early as 1550 chocolate factories of considerable size existed in the south of Europe—in Lisbon, Genoa, Turin, Bayonne and Marseilles.

The cocoa-tree grows to an average height of twenty to thirty feet and is of spreading habits and healthy growth. Bucare-trees, tropical trees of rapid growth, are set between the rows to shade the young trees until they have attained maturity. A minimum temperature of 80° Fahr. and plenty of moisture, both of soil and atmosphere, are required to bring out their full bearing possibilities.

The trees begin to bear fruit at three or four years, continuing to the age of about forty years. Some fruit is ripening all the year round, but two main crops are gathered, generally in June and December (or January)—the latter being the more important.

The cocoa beans or seeds are found in pods of varying shapes from seven to twelve inches long and rather more than a third as much in diameter at the thickest part. The ripe pod is dark yellow or yellowish-brown in color with a thick, tough rind enclosing a mass of cellular tissue. The beans, about the size of almonds, but more suggestive of vegetable beans in shape, are buried in the tissue, each in a thin shell varying from the papery texture of the Ceylon and Java beans to the hard skin of the other varieties. When fresh they are bitter in taste and of a light color, turning reddish-brown or reddish-grey during the processes of sweating and curing.

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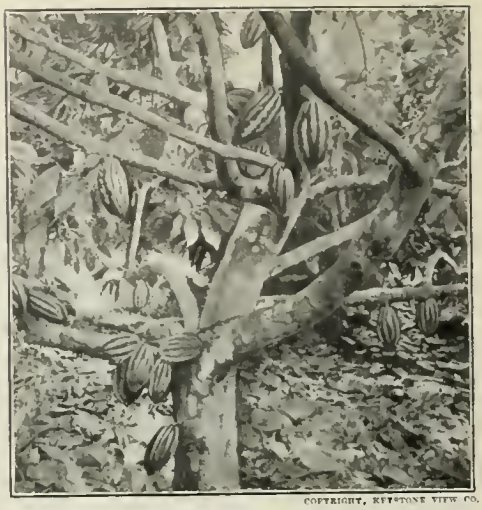
Cocoa Pods on Trunk of Tree

A curious fact is that the pods grow most freely on the older branches and the trunks of the trees, often on those entirely bare of foliage, instead of among the fullest foliage as with the majority of other fruits.

In gathering, only fully ripened pods are taken. They are first left on the ground for twenty-four hours to

dry and are then cut open and the beans taken out (the beans still remaining in their shells).

The next operation is the "sweating" or curing. The acid juice which marks the beans is first drained off and they are then placed in a sweating box, in which they are enclosed and allowed to ferment for some time, great care being taken to keep the temperature from rising too high. The fermenting process is in some cases effected by throwing the seeds into holes or trenches in the ground and covering them with earth or clay. The seeds in this process, which is called "claying," are occasionally stirred to keep the fermentation from proceeding too violently.



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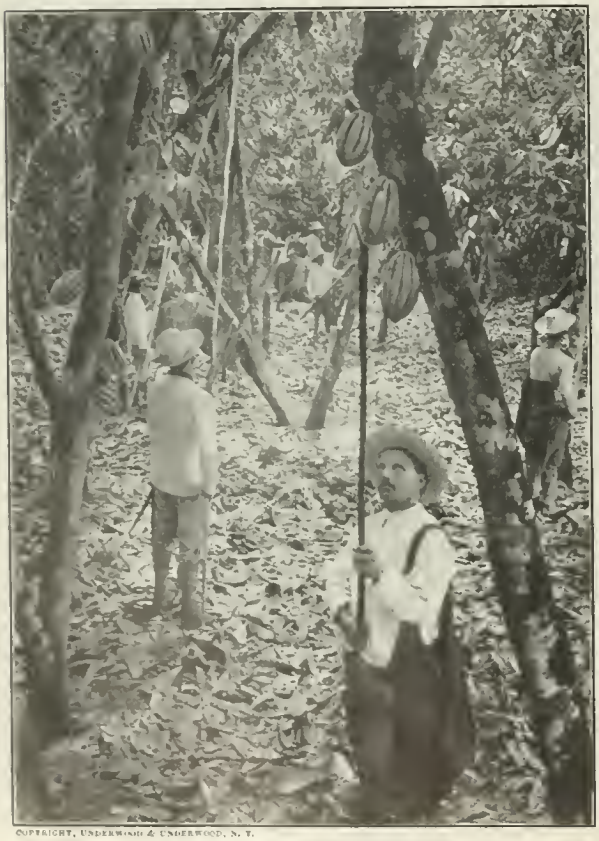
Eccentric Growth of Cocoa Pods

The final plantation process is the drying of the mass in the sun—the beans of good quality which have been carefully fermented there assuming the warm, reddish tint so highly prized. They are then ready to be put into bags and sent out into the markets of the world. In the cocoa and chocolate manufacturing establishments the beans are cleaned, sorted and roasted—the roasting being most important, for upon it depends to a great extent the flavor of the finished cocoa. Too little, leaves the beans crude and unflavored, and too much will make them bitter.



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Harvesting Cocoa Pods

The roasting machine keeps the seeds in constant motion over the fire or hot pipes for about twenty-five to forty-five minutes. They go next to the "cracker," which cracks the shells and breaks the beans into small fragments. After the "cracker" comes the "fanner," which separates the shells from the bean fragments and sorts them later by screens into six different sizes, the last being as fine as dust. The cracked beans are known as "cocoa-nibs."

The next step is the "blending." Cocoa beans of different plantations and countries vary in flavor and strength very much as do tea-leaves or coffee beans, and it is the aim of each manufacturer to make a blend which will produce the best possible flavor, aroma, etc.

The cracked beans designated for each blend go first to the "mixer" and then to the "grinders," which reduce them to a thick, oily liquid.

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Drying Cocoa Beans on cement floors in Dominica

If "plain" or "bitter" chocolate is being made, the manufacture is then complete. The liquid is cooled to the proper temperature and run into molds where it remains until cooled to hard cakes by refrigerating machines.

For "sweet chocolate," cocoa-butter and sugar are added to the liquid which comes from the grinders, and mixed in the "melanger" or mixer, and the resulting paste is sent through the "rollers," coming from them smooth, even and with all the air pressed out.

For "Vanilla Chocolate," some high-grade vanilla beans, and in some cases a small quantity of spices such as cinnamon and cloves, are added at the same time as the sugar.

In "Spanish Chocolate" and similar varieties, almonds are often used instead of vanilla and with the addition of cinnamon and cloves.

The paste which comes from the rollers is next weighed off and placed in molds—being thoroughly shaken down in them by automatic agitators.

For "Cocoa" or "breakfast cocoa," the liquid which comes from the grinders is deprived of some of its oil or butter, leaving a comparatively hard dry substance which is ground to powder and bolted through very fine silk screens. Only the fine powder passes through, the remainder being held to grind over again. This is put up for the market in various sizes of cartons and cans.

One of the distinguishing characteristics of absolutely pure cocoa when ready for the market is a rich, reddish color, commonly known among artists as "cacao-red." When the powder is so dark as to appear almost black it is generally a sign that it has been artificially colored, or that it was made from imperfectly cleansed beans of a poor quality.

Cocoa contains a percentage of theobromine which corresponds to the stimulating properties of tea and coffee, but its high merit lies principally in its very large proportion of nutritive substances—roasted cocoa beans contain an average of 49% pure oil, 18% protein matter, 10% starch, and 7% other carbohydrates, etc.—contained in a form which is very palatable, however it is taken into the system—whether as a

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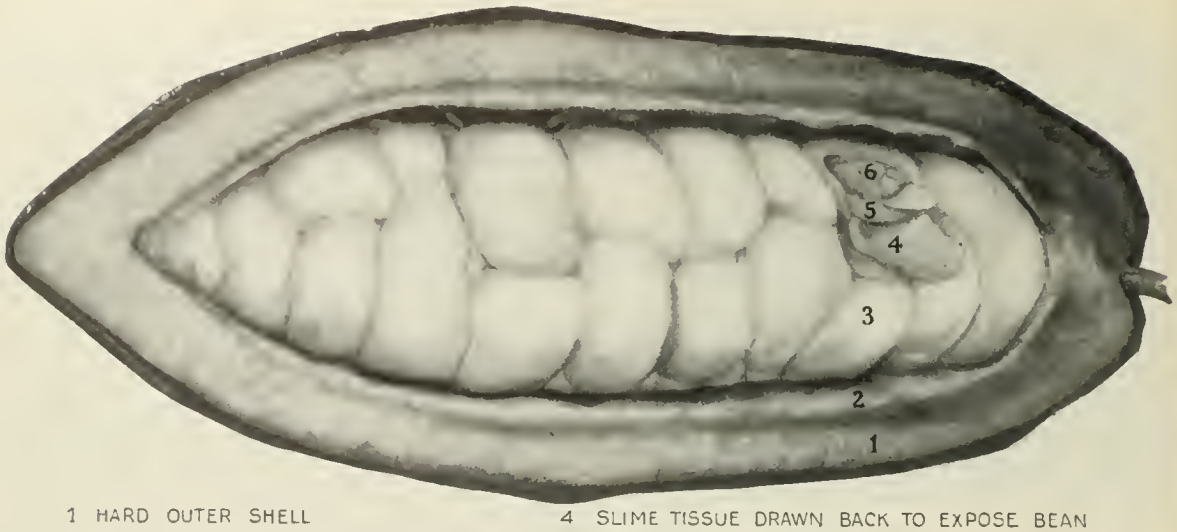
Removing Cocoa Beans, Curing and Drying



1 HARD OUTER SHELL
2 SOFT INNER LAYER
3 BEAN IMBEDDED IN SLIME TISSUE
4 SLIME TISSUE DRAWN BACK TO EXPOSE BEAN
5 BEAN SHELL OR ENVELOPE
6 COCOA BEAN OR KERNEL

COCOA POD, two-thirds average size, half of outer shell removed

beverage or confection, in puddings, cakes, etc. Its value is highly regarded by all civilized governments—in Europe and the United States, chocolate is a part of the army ration as a food and of the navy ration as a beverage.

The United States is to-day the largest cocoa consuming country in the world. During 1910, more than 115,000,000 pounds of cocoa beans were imported into the United States—nearly one-third of the entire world production. The chief sources of the crude beans received here are the British West Indies (chiefly Trinidad), Brazil, Portuguese Colonies, Ecuador, San Domingo, Venezuela, East Indies, Dutch Guiana, Cuba, etc.

Some prepared cocoa and chocolate is imported from Germany, Holland, France, Spain, Switzerland and other European countries, but, on the other hand, the United States is beginning to figure as an exporter of the prepared article.

Dutch cocoas are distinguished by their treatment with sodium carbonate or ammonium hydrate. The reason given is that the process makes a greater percentage of protein available as a nutrient by destroying the cellular tissues. The objection to the process is that it increases the proportion of mineral salts. The apparent result is to make the cocoa darker in color and more frothy when prepared for drinking.

By U. S. standards, *Plain* or *Bitter Chocolate* is the mass obtained by grinding cocoa nibs without the removal of any constituent except the germ, and contains not more than 3% ash, insoluble in water, 3.5% crude fibre and 9% starch, and not less than 45% cocoa fat. *Sweet Cocoa* should not contain more than 60% sugar. No chocolate or cocoa preparation should contain in the sugar-and-fat-free residue a higher percentage of ash, fibre or starch than found in the fat-free residue of Plain Chocolate.

The principal commercial classifications as they interest the consumer are:

Cocoa: the ground cocoa bean, from which part of the oil or fat has been extracted, sold in powdered form. Because of the smaller quantity of oil, cocoa is more acceptable to many digestions than the richer chocolate. It may be added that the fact that the cocoa tin is not full when opened does not necessarily imply short measure. The tins used by manufacturers are larger than required for the weight

called for, as cocoa fresh from the machines bulks a little larger than after it has been shaken down in commercial handling.

Chocolate: the ground cocoa bean, generally in cake form, sweetened and unsweetened, flavored and unflavored, for cooking and eating.

The "white" appearance sometimes noted when cake chocolate has been kept in stock for a long time is not attributable to age—it probably indicates that it has at some time been exposed to excessive heat. When pure chocolate is subjected to a temperature of 96 degrees or thereabouts, it begins to melt and allows part of the oil or butter to rise to the surface. When the temperature is lowered, so that the chocolate again becomes solid, the outside of the cocoa will show a thin covering of congealed cocoa-butter, which being of a yellowish color looks "white" in contrast to the brown of the chocolate itself. It is also erroneous to suppose that this is an indication that the chocolate is of inferior quality or is injured for practical use, for if it should be melted again and poured into molds and cooled at the right temperature it would resume its original color.

Powdered Chocolate: sweetened chocolate of varying styles and compositions, sold in a pulverized condition.

Milk Chocolate: a compound of milk powder and the ground cocoa bean, sweetened, flavored, etc.

Cocoa Nibs: the cracked cocoa bean, without further treatment than the clearing of chaff, shells, etc. This is often recommended by physicians who wish their patients to receive the full nutriment of the cocoa bean, without the extraction of any of its oil and without the addition of any flavoring or sweetening ingredients. The beverage is prepared by steeping the nibs in boiling water, very much as for tea or coffee.

Cocoa Shells: the shells separated from the cracked beans. They contain a very small percentage of the food properties, but quite a little of the flavor of the cocoa bean, and make a cheap and pleasant drink. They are usually bought as a matter of economy, but they are also popular among some well-to-do people of weak digestion.

Cocoa Butter: the fat or oil extracted from the cocoa bean. It has high commercial value. The greater part of it is employed in confectionery, especially in covered candies, such as Chocolate Creams, but a considerable quantity is used in the druggist's trade—in the manufacture of toilet preparations, cosmetics, etc., and also in the natural form without change or addition whenever the requirements call for a pure fat that will melt at the temperature of the body and will retain its sweetness indefinitely.

Cocoa and chocolate and all allied products should be kept cool and dry to prevent deterioration.

In preparing cocoa or chocolate for the table, it should be remembered that the full flavor and most complete digestibility are only attainable by subjecting it to the boiling point for a few minutes. Neither is properly cooked by having boiling milk or water poured over it—in that way you get all the "food value" into the stomach, it is true, but the same remark applies if you eat it raw—keep it boiling for a few minutes to enjoy it at its best.

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A COCOANUT GROVE

COCOANUT. The cocoanut palm is a native of the islands which dot the Southern Pacific, but it is now widely grown in many other tropical parts of the globe, particularly in the West Indies, Ceylon and parts of India.

It flourishes best in the sandy soil along the sea-shore and frequently attains to the height of one hundred feet —a long straight slender trunk, without either branch or leaf—perpendicular to the sky or leaning to one side or the other according to the mercies of the wind in its youth—with a crown of palm leaves for its head. The nuts hang downward near the trunk from the under-part of the crown—the yield averaging from fifty to one hundred nuts a year.

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Husking the Crop in a Cocoanut Grove near Mayaguez, Porto Rico

The tree grows wild without care, but for commercial purposes it is raised in plantations or "groves."

The cocoanut, as the average person sees it, is a large woody-looking nut, three or four inches in diameter, the shell enclosing an inside covering of half an inch or more of white meat, and holding a small quantity of cocoanut milk.

On the tree the nut is enclosed in a husk, two or three inches in thickness, according to the stage of ripeness, and a green outside skin. When the nut is first formed inside the husk the shell is thin, and in place of the firm white meat is a thin coating of a white, creamy substance—which you eat with a spoon and find delicious—and a large quantity, two glasses or more, of sweetish water with a mild delicate cocoanut flavor. As ripening continues, the outside skin takes on a brownish appearance, the husk shrinks and becomes more and more fibrous, the shell of the nut inside becomes harder and the creamy substance and the water inside the shell become the firm white meat and the smaller quantity of milk that constitute the cocoanut of general sale. The outside husk is removed before shipment here, partly to save space in packing, but also because it is easier to ascertain the condition of the nuts —any damaged or cracked specimens are thrown out as they would either dry up or become rancid in transportation. The "eyes" and "nose" in the "face" of the cocoanut—the delicate spots in the shell—are often tarred over to prevent the entrance of air.

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A Raft of Cocoanuts Drifting Down a Stream in Luzon, Philippine Islands

In places where they are grown, "green" cocoanuts are generally preferred for eating raw, the "cream" and water being sought—the meat of the ripe cocoanuts being principally used for

cooking, confectionery, etc.—and quite a few green cocoanuts are brought here during the year for special stores and individuals. They are gathered by natives who climb up, or rather walk up, the trunks—with the aid of a rope in the case of the taller palms.

Ripe cocoanuts are gathered after they have fallen of their own accord—fortunately for the native population they rarely fall except at night when the "seal" is loosened by the heavy dew.

The quantity of ripe cocoanuts sold in this country to be eaten raw is considerable, but the most important traffic is in the meat itself—dried, shredded, macerated, etc., for cooking, confectionery, etc.—and in the oil produced from it.

The greater part of the cocoanut meat utilized here is made in this country from whole nuts, 95,000,000 being imported during 1910; but large quantities, nearly 27,000,000 pounds during 1910, are imported ready dried, coming principally via San Francisco from the Philippine Islands, the East Indies and the Islands of the South Pacific. It is commercially known as "copra."

Cocoanut oil—in temperate climates, a soft white fat—is obtained by pressing either the fresh meat or the dried copra, the former being the choicer. It is imported in large quantities—principally from Ceylon and the East Indies (both direct and via England), in addition to that manufactured here, for use in cooking oil preparations, in the manufacture of soap, etc. There is an increasing consumption of cocoanut "butters" prepared from cocoanut oil, especially in tropical countries, as it stands greater heat than dairy butter and is acceptable to many palates. Marseilles, France, is the center of the industry.

The value of the cocoanut palm to the natives where it flourishes can scarcely be exaggerated. There is literal truth in the native proverb to the effect that "He who plants a cocoanut-tree plants vessels and clothing, food and drink, a habitation for himself and a heritage for his children."

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Cocoanut Rafts on One of the Waterways of Manila, P. I.

He who would do so could build himself a home of "porcupine wood," which is procured from the trunk of the tree and is very durable. Leaf-stalk rafters are to his hand, and his house is readily completed with a picturesque roof of thatched leaves. He can cover his floor with matting made from the coir (the fiber which is about the nut), and the same fiber will supply him with clothing, cordage and fishing lines. He can make brooms and brushes of the ribs of the leaves, and can utilize the old leaves in making buckets. The house completed, it can be decorated with fans and with cups artistically carved from

COCOANUT

the nuts. The palm furnishes transportation also, for the sea-going canoe of the South Sea Islander is made of rough pliable planks of cocoanut-wood, grooved to fit and stitched together with cocoanut-coir twine.

As regards food, he can sustain life on the monotonous but dainty fare provided by the green and ripe nuts. The latter will give him also cocoanut-oil in which he can fry any other food he may obtain, and from which he can manufacture soap and candles. The terminal bud may further be cooked like cabbage, and both temperance and intoxicating beverages may be prepared from the sap and fruit.

"Tuba," a beverage highly prized and extensively consumed by the natives, is the sap of the flowering fruit-bearing stalks. As its extraction destroys the nut-bearing capacity, it is generally confined to trees devoted exclusively to the purpose. The fermented juice is intoxicating and yields on distillation a spirituous liquor known as "Coco wine."

COD: one of the most abundant of food fishes, found in all northern temperate seas and taken in large quantities by both nets and lines along the North Atlantic and Arctic coasts of both America and Europe. It ranges in size up to a hundred pounds, the average market weight though being less than ten pounds. It is a very voracious fish, all the small ocean inhabitants serving it for food, and extraordinary prolific, the roe often containing from two to eight million eggs and sometimes constituting a full half of the weight of the female. See *Color Page* facing page 250.

Cod is marketed in various forms, fresh, salted and dried, in the latter state being generally sold by the quintal (112 pounds). In addition to the large consumption in North America, great quantities of the dried fish are carried from Newfoundland to the West Indies, South America and Europe, especially to the Catholic countries of the latter continent.

Fresh cod is at its best during the winter months. The head and shoulders, the choicest portions, are preferably boiled, the remainder being usually sliced for frying, etc.

In Norway, cows are frequently fed on cod heads and seaweed in order to increase their supply of milk. In Iceland, the waste parts, bones, etc., are utilized as cattle food.

Salt Cod of all kinds is, when possible, cured immediately after catching. The fish are first split from head to tail and next thoroughly cleaned of all traces of blood by repeated washings in salt water. Part of the backbone is next cut out and the fish, after being drained as nearly dry as practicable, are then placed in vats or similar receptacles and covered with salt, remaining thus until sufficiently cured.

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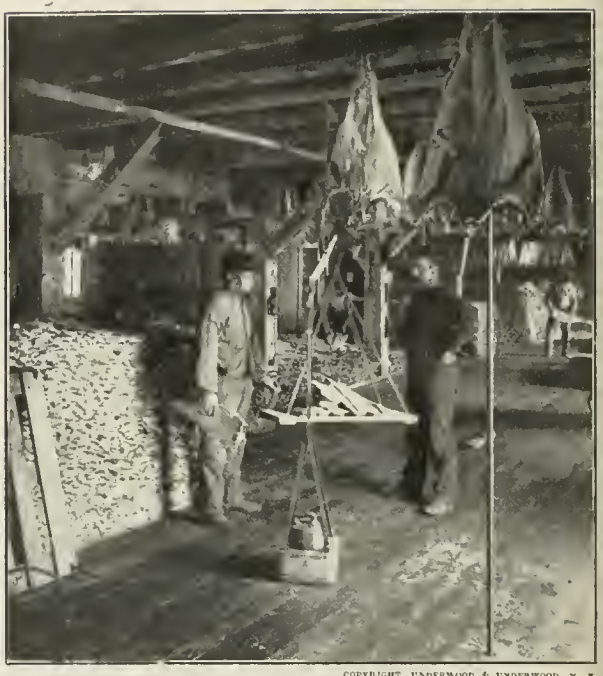
Drying Cod on Racks at a Cape Ann Wharf, Gloucester, Mass.

When the curing process has been completed, they are taken out of the vats, washed and brushed to remove superfluous salt and placed to dry in the sun, spread out on wooden racks, on the beach or elsewhere. They are considered fit for market when they show "bloom"—a whitish appearance on the surface. They are sold in many forms, popular types being *Boneless Cod* and *Flaked Cod*, put up in small boxes; *Shredded Cod*, in papers and cans, etc.



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Dried Cod in a Warehouse, Aalesmund, Norway

Dunfish is one of several names for dried cod. The title is traced to two different sources—(1) as applied to the fish dried on open "downs" or "hills," from the Gaelic "*Duin*," a hill; (2) as descriptive of the color of cod cured by being salted and piled below salt grass in a dark room for several months, being turned once or more during that time.

Rock-Cod, or **Klipp-fish,** is applied to the fish dried on the rocks.

"Scrod" is a term which was originally applied to any fish, particularly cod, "scrodded" or "shredded," but it now generally signifies a young cod split and slightly salted.

Cod Sounds, or Swim-bladders, and **Cod tongues** are popular delicacies, both separately and mixed. They are eaten fresh, being then in season from October to May, and salted or pickled. The dried Sounds also furnish an isinglass very little inferior to that from the Sturgeon.

Cod Roe is a favorite table delicacy and is also important commercially as a bait for fish, large quantities being used in the French sardine fisheries.

COD LIVER OIL: the expressed clarified oil of cod livers. It is considered an excellent aid in the treatment of pulmonary diseases and also in various forms of debility, the food value of the pure oil being supplemented by a noticeable percentage of phosphorus, iodine and bromine. There are three grades—Light Yellow, Light Brown and Dark Brown. The best qualities of Light Yellow come from the Lofoten Isles, Norway.

The high grade "cod oil" of commerce is identically the same as "cod liver oil"—both are extracted from the cod livers—but publicity has made the latter title more familiar to the general public.

Nearly all of the cod liver oil on the market formerly came from Newfoundland and Norway, but Alaska and Japan are to-day also important manufacturing points.

"Emulsion" of cod liver oil, a popular modern form, is a milk-like preparation, the oil finely divided and held in suspension by the addition and mixing in of, generally, glycerine and tragacanth.

COFFEE BERRY HALVED, SHOWING SINGLE COFFEE BEAN.

COFFEE BERRY WITH HALF OF FRUIT PULP REMOVED, SHOWING TWO COFFEE BEANS IN PARCHMENT COVERINGS.

COFFEE

COFFEE. The civilized world is indebted to Africa for the coffee bean. Its name is variously attributed to that of the Abyssinian province of *Caffa* and the Arabian word *K'hawah*. Its early history is clouded in tradition, but it appears to have been known by the Ethiopians of Northern Africa from time immemorial. They used it not only for the making of a beverage, but also as a war food, by mixing the roasted, pulverized beans with grease and molding into balls—this being the only food they carried on short forays.

Its use reached Abyssinia toward the end of the thirteenth century, and traveled about two hundred years later into Arabia. The latter country seems to have been the stepping-stone to its universal consumption—and it was Arabian coffee shipped through the port of Mocha that shed a halo around the name of "Mocha" and led the coffee world into using it as a panoply for millions of tons that never saw Arabia!

In those days Arabian merchants were the most enterprising in the world—they stood at the gateway from Asia to Europe, and they added the coffee bean from Africa to the spices and other luxuries of the Orient. The use of coffee quickly spread outward—first to Persia and Syria, then to Cairo and in a few years to Venice. A little later it became the favorite drink at Constantinople, and Oriental coffee-houses sprang up everywhere in the city.

For the next hundred years, the trade appears to have rested content with the conquest of the countries bordering on the eastern Mediterranean, but in the middle of the seventeenth century the demand for coffee arose almost simultaneously in London, Paris and other European centers—and coffee-houses in London and cafés in Paris became important both in point of number and for the fashionable, literary and political classes which crowded them daily.

The progress of the coffee bean was beset with many obstacles. Religiously inclined people denounced coffee as an insidiously pernicious beverage, statesmen saw political danger in the discussions which marked the attendance at the coffee-houses—on this ground they were closed by government orders on several occasions and in several countries—and governments found new sources of revenue by heavy taxation on every gallon of coffee brewed—but the beverage proved its real worth by outliving all restrictions, and even all changes from the customs and habits of those former generations, and has steadily gained in popularity to the present rather staggering figures of an average yearly consumption of more than 2,500,000,000 pounds.

Until almost the end of the seventeenth century, only a little more than two hundred years ago, the world was entirely dependent on Africa for its coffee beans—no one had apparently attempted to carry the coffee shrub into any other soil. Louis XIV is credited with being the first to grow it in the French West Indian Colony of Martinique—and soon afterward it was successfully introduced and cultivated by other European governments in the West Indies and by the Dutch in Java, Sumatra and other islands of the Malay Archipelago. It was introduced into India in about 1700; twenty years later into Ceylon, from Java, by

Bronze-Colored Maidens Assorting Coffee, Nicaragua

the Dutch, and in 1740 into the Philippines by Spanish missionaries from Java. At about the same time the first shrub was planted in Brazil, now the world's greatest coffee-growing country, and a little later it spread to Cuba, Porto Rico and Mexico, and thence to practically all other parts of Central and South America. To-day Africa, the original source, is a comparatively unimportant factor in the great bulk of coffee production.

Growing the Bean and Preparing it for Market.

The common coffee shrub is an evergreen plant, which in its native growth is a slender tree of eighteen to twenty feet in height, with the greater part of the trunk clear but opening near the top into a few long drooping branches. Under cultivation the shrub is kept in a condition of short close growth, from four to six feet high, so as to increase the crop and to facilitate picking it—the branches, flexible, loose and expanding out and downwards, the lower ones horizontal, the upper, inclined to trail—the whole very pleasing in appearance. The leaves are oblong-ovate in shape, from five to six inches long and from two to three inches in width when full grown; smooth, firm and leathery in texture, dark, shiny green on the upper surface and pale green underneath. The flowers are white and fragrant, resembling the jessamine in odor, growing in dense clusters in the axils of the leaves. The fruit, which quickly follows the flower, is a fleshy berry, green at first, changing to a yellowish tint, then to red, looking then much like a small red cherry, and finally to a smooth glossy purple or dark red.

There are generally two or three main harvests in the course of a year, and cultivation aims to direct the crops as closely as possible to that end, but in a greater or less degree the shrub bears blossoms and fruit contemporaneously all the year round.

The flesh or pulp of the fruit, sweet and agreeable in flavor and frequently eaten by the pickers, encloses two seeds or beans, each inside a thin parchment-like skin. These seeds, oval in shape, rounded on one side and flat on the other where they rest together, with a little groove running the length of the flat side, constitute the raw coffee of commerce. They are at first of a soft bluish or greenish color, becoming hard and flinty on exposure and changing generally with age to a pale yellowish tint.

When only one bean is found inside the berry—occasionally in all varieties and frequently in a few—the "flat side" still holds the distinguishing groove, but it is nearly as round as the other. These beans are known as "pea-berries," "male berries" or "caracolillo" (Mexican). They are most plentiful on old bushes.

There are many varieties of coffee plants, but they all have the same general characteristics, and botanists differ as to whether or not they are really divisible into different families. The variety of general cultivation to-day is that known as the Arabian coffee plant. Increasing attention is, however, being devoted to the Liberian and the Maragogipi because of the more vigorous growth of the shrubs and the larger size of the beans (see *Color Page* of COFFEE BEANS). They do not present the fine cup quality of the better grade Arabian, but their size and strength of flavor give them value for blending. The Liberian is native to Liberia, Africa, and is cultivated to a considerable extent in several countries, including Brazil, the Dutch East Indies and Ceylon. The Maragogipi is a native of Brazil.

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COFFEE BUSH LOADED WITH BERRIES

The coffee shrub grows best in rich, well-irrigated soil in upland countries. Tropical climate, entire absence of frost and protection from the wind, are among the essentials.

Propagation is by buddings, cuttings and seeds, the custom varying in different countries. The young plants are transferred from the nurseries to the plantation when about eighteen inches high. In some countries they are planted close together—from four to eight feet each way; in others they are spaced as wide as ten to twelve feet and other crops are planted between the rows. The first crop is generally gathered when the shrubs are four years old, and they continue to produce for from ten to twenty years—and sometimes longer.

The berries are picked when just fully ripe—if not mature, the best flavor of the beans is lost, and if allowed to become over-ripe they may fall off and become spoiled on the ground. The picking is done by hand, the berries being dropped into a basket suspended around the neck of the gatherer, or into broad, flat bamboo receptacles placed beneath the shrubs, and thence emptied into hampers or sacks located at convenient points.

Under the old method, the berries are allowed to dry before the pulp is removed, but in what is known as the "new," "washing" or "West Indian" process (W. I. P.), they are taken direct and as fresh as possible to the "pulping house," where the pulp or meat is at once removed by machinery—leaving only the beans inside their "parchment" covering. This work is very carefully done, for to scratch the skin of the bean itself, called the "silver skin," to distinguish it from the parchment covering, is to render it worthless because of the processes to follow.

From the pulping machines, the "parchment" beans, so called because they still retain the outer skin-covering referred to, run into the first of a series of fermenting and washing tanks, where by lying in water or moistening they are fermented and then washed to remove the saccharine matter adhering to the parchment.

After the washing, the beans undergo the drying process—by exposure to the sun or by artificial heat, according to circumstances.

This is the last stage of the beans as "parchment coffee." The next step is hulling and peeling, but before this is undertaken the bean is allowed to remain in its parchment for several weeks, as this "curing" improves its quality and makes it retain its color better. The longer it is left—even for months or years—the more, as a rule, it will improve, but as lengthy curing makes it very difficult to remove the silver-skin, the bean is never left in the parchment longer than is absolutely necessary.

"Hulling and peeling" consists in the removal, generally by milling, of both the "parchment" and the "silver-skin." The bean after this process is at first very light-colored, but it soon changes to a sort of fern-green or greenish-yellow hue, and this color it retains for a considerable time if kept under proper conditions and away from dampness. With greater age the tint becomes, as already noted, a pale yellow, except East Indian types, which change in some cases to a dark brown as the result of storage methods and shipment in slow wooden sailing vessels.

As the beans emerge from the huller, they come first under the influence of a fan, which separates and removes the detached skins, and then go to the "separator" —an inclined revolving cylindrical sieve, divided into different meshes. Sand and dust drop through the first section, small and broken beans into the next and so on, the best and largest beans being retained.

In the most up-to-date plantations, separators of the eccentric or vibrator type have been installed in place of the revolving sieves, as they make possible a more accurate separation by sizes of the ordinary or "flat" beans, in addition to separating the peaberries for shipment as such.

The separation is followed by a careful sorting over by hand of the better grades to pick out any discolored or otherwise undesirable beans.

As soon as the sizing and grading are finished, the coffee is packed in bags or casks and is ready for market.

The methods outlined are employed only on modern plantations equipped with improved appliances, but the same principles are followed by all firms or individuals using the "washing process" on any scale. By the "dry" method, "milling" is used entirely in place of the fresh pulping and washing.

The value of the coffee marketed by the producer depends to a large extent on the care and judgment exercised in bringing it through the various processes—and the same care must be continued in the transportation of the bags to the port of shipment and in storing them in the ships which carry them to the consuming countries.

The transportation of coffee is also an important item in its cost. Its journey from the plantation to some central point is often by human portage through mountain districts and then by slow, tedious, bullock travel for long distances to the coast—with all the risk of deterioration en route.

Coffee Consumed in the United States.

The following table of the imports of coffee into the United States during the twelve months ending June 30, 1909, gives a fairly accurate idea of the relative importance of the sources of our supply. The total figures vary considerably from year to year, generally averaging less than those shown. The calendar year 1910 showed a total of only 804,417,451 pounds.

	Pounds		Pounds
Brazil	818,444,714	*Brought Forward*	1,022,568,807
Colombia	60,183,641	West Indies	3,313,213
Venezuela	54,774,402	Arabia (from Aden, the U. S. port of Mocha coffee)	2,128,582
Other parts of South America	1,416,768	Turkey in Asia	1,371,746
Mexico	35,004,112	Holland (principally coffee from the Dutch East Indies re-shipped)	1,593,003
Guatemala	26,370,593	England (including India and Ceylon coffees re-shipped)	2,054,119
Salvador	10,025,794	Miscellaneous sources (re-shipped from Europe, small quantities from Africa, etc.)	16,839,298
*Costa Rica	2,956,093		
Other Central American States	1,399,529		
Java, Sumatra and the East Indies generally	11,993,156		
Carried Forward	1,022,568,807	*Total*	1,049,868,768

*The imports from Costa Rica generally range from 11 to 20 million pounds.

It will be noted that Brazil supplied nearly 78% of all the coffee imported, and that other parts of South and Central America and Mexico furnished more than 18% leaving less than 4% to the credit of all the remainder of the world. In other words, we received during the year 1,010,575,651 pounds from South America, Central America and Mexico as against only a little more than 39,000,000 pounds from all other countries.

The coffee classifications best known to the general public are "Mocha," "Java," "Rio," "Santos," "Maracaibo," "Bourbon Santos," "Bogota" and "Pea-berry." The

cheapest varieties of general consumption are the low grade Rios, and the dearest, the high grade "Javas," or East Indian, and Mocha.

There was formerly a great deal of deception and misunderstanding, much of it entirely unnecessary, in the buying and selling of coffee—not only by mixing in low grade, imperfect and otherwise undesirable beans for the sake of greater profit, for similar practices are found in greater or less degree in every line—but also in the marketing of good products under titles to which they have no right. The misuse of geographical names was for many years so widespread that they lost practically all their real significance to the general public—almost any small coffee bean was passed as "Mocha" and any larger uniform bean for "Java." That this was done is convincingly proved when we note that only a trifle more than one pound in every hundred received during the year came from Java or the vicinity of Java, and that all the coffee from the Mocha port of shipment amounted to only about one pound in every five hundred—yet every grocery store in the country sold enormous quantities of "Java and Mocha." The practice of substitution extended also to every variety and every grade of every variety.

Since the passage of the Pure Food Law there has been a great improvement in conditions. Millions of labels reading "Java and Mocha" were destroyed, others were amended by such additions as rendered them permissible. The word "Blend" was for a time so employed as to give prominence to the legend "Mocha and Java" on mixtures in which beans of those two types must have felt hopelessly in the minority, but this also was checked by the rule that coffees named in blends must be given in the order of the proportions contained in the package.

This revolution will eventually prove of great advantage to the industry. The former methods tended to retard rather than advance the proper appreciation of coffee as a beverage, which will naturally follow consistent retailing of the different varieties, grades and blends under inviolable titles. In many cases, the old style nomenclature was a distinct fraud on the purchaser by obtaining from him a higher price than the value of the beans. In others, where no fraud was intended and where the product was worth the price charged, the masquerade name attached to it was a foolish following of trade traditions. The practice is entirely unnecessary, as the average coffee sold here is of good quality, well and cleanly prepared, quite worthy of sale under its own proper names.

In defense of the retailer and merchants generally, it must be added that for generations they were in a majority of cases themselves victims of a world-wide system of false naming and substi-

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Coffee Bush in Flower

tution and that they only passed goods on as they received them and designated them the "same as others did."

When the *adulteration* of coffee is practised, it is generally in the ground bean. Nearly every conceivable substitute has at some time been ground and roasted to a resemblance of coffee —among them rye, rice, holly berries, barley, acorns, beet-root, beans, peas, carrots, etc.

If *Chicory* is added without the knowledge or desire of the consumer, it is entitled to place as an adulterant, but it differs radically from the other articles mentioned as a great many people, especially in European countries, consider the addition of a certain percentage as an improvement on the straight coffee (see article on CHICORY). Under the present law, the addition of Chicory must be announced on the label.

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Coffee Pickers Homeward Bound

The average *chemical composition* of raw and roasted coffee is as follows:

	Raw Coffee PER CENT	*Roasted Coffee* PER CENT
Caffeine	1+	1+
Sugar	9 to 10	1/2
Caffetannic acid	8 to 10	4 to 5
Fat and oil	11 to 13	13 to 14
Albumin	10 to 11	11 to 13
Nitrogenous extract and coloring matter	4 to 7	12 to 14
Dextrin	1—	1+
Cellulose (fibre), etc.	38	48
Ash	3 to 4	4 to 5
Moisture	8 to 10	1

The liquid obtained by the ordinary brewing of the ground coffee contains however only unimportant percentages of components other than "Caffeine," which furnishes its stimulating properties, etc.; "Caffeole," the chief aromatic principle produced from the fat, oil, etc., by the roasting process, and "Caffeic acid," a secondary flavoring component. The sugar is converted into caramel in the roasting.

The coffee bean contains less stimulating property than the tea leaf, but, as more is used for making the beverage, the two liquids offer approximately the same stimulating power.

Some of the albumin and cellulose is dissolved in the brewed coffee, and a little food material is thus included in the beverage, but the amount is necessarily quite small. The bulk is left in the "grounds."

The United States is the largest per capita consumer of coffee, the average consumption being about twelve pounds a year.

Coffee Blending.

Blending is an important branch of the coffee business, but no exact rules can be laid down for its practice, as tastes differ in every country and often in different sections of the same country. The fundamental intent in high-class blends is to obtain a

smooth, mellow, aromatic liquor, to add strength if too mild and to modify if too heavy. The genuine Mocha, for example, is a little too acid and the genuine Java generally not quite acid enough—hence the advantage of a blending of genuine Mocha and Java. In low grade blends, the aim is to make cheap, coarse beans palatable by adding a certain quantity of others of more pleasing flavor.

The best blends are obtained by roasting each type separately and then mixing and closing them up together immediately after—as old crop and new crop, or "mild" and "strong" beans require different lengths of time for the best results in roasting. If put in the cylinder to roast together, some are liable to be half raw while others are over-cooked.

Coffee Selection.

Long experience is essential to the training of a coffee expert. The chapters following on the different coffee growths give brief descriptions of the beans of the principal varieties—but there are so many different kinds, so much alike and yet with so many minor differences of size, appearance, color and cup quality, that very few people can correctly judge the quality of a bean by its appearance raw—and only the keenest experts can determine its exact classification after roasting. The best test for the average merchant or consumer is by a sample infusion after roasting and grinding.

In purchasing the raw beans, one should also though bear in mind that:

(1) If all of one variety (*i. e.*, before blending), they should be fairly uniform in size, appearance and color.

(2) They should be free from stems, stones, dirt and all such foreign matter.

(3) When cut, they should be the same general color all the way through. If the inside is considerably lighter than the outside, it will usually be found that the beans have been artificially colored.

Simple tests for ground coffee are:

(1) Press a little of the dry coffee between the fingers—if it cakes, it is adulterated, probably with chicory.

(2) Place a little of the dry coffee in a glass of water. If nearly all floats and the water does not color—or only a very little—the coffee is probably pure. If part of the coffee floats and part sinks, it is adulterated—probably with cereals, chicory or similar substances. If the water turns a deep reddish tint, chicory has been added to it.

(3) Spread a little dry coffee on a piece of glass or something similar and moisten with a few drops of water. Then pick out some of the smallest pieces with a needle—if they are soft, the coffee is certainly adulterated, as real coffee bean particles stay hard even after long immersion in water.

It must be remembered that the above tests apply only to the purity of the bean—they tell nothing of the flavor or aroma, which are determining points of value. A coffee may be perfectly pure, yet be harsh, musty, hidey or in many other ways undesirable—hence the necessity of testing flavor and aroma by making an infusion.

Coffee Roasting.

The proper roasting of coffee alters its appearance and flavor by bringing about important changes in the component parts of the bean. It develops the "caffeine" (the active principle of coffee, corresponding to the theine in tea), by separating it from the tannic acid, frees the highly aromatic coffee-oil (the amount and quality of which

COFFEE BEANS

largely determine the value of the roasted product), renders the fat more easily soluble by releasing it from the fat cells, and reduces the natural sugar while converting the saccharine matter into caramel. The result is that after roasting the bean readily releases the flavor and aroma for which it is famous and will, by thorough infusion in boiling water, yield a total of more than 40% of soluble matter—though in ordinary coffee making only from 10% to 15% is actually extracted.

The roasting in the average modern United States plant is preceded by passing the beans through a cleaning and milling machine which removes all foreign matter and gives a smooth finish. From this they go into large revolving perforated steel or iron cylinders, encased in brick and revolving over brisk fires. The cylinders are fitted with interior lateral ridges which keep the beans constantly moving in order that they may not become "tipped" or scorched. The time of roasting varies, but generally takes thirty minutes for a "light," and from thirty-five to forty-five minutes for a "high" or "dark" roast.

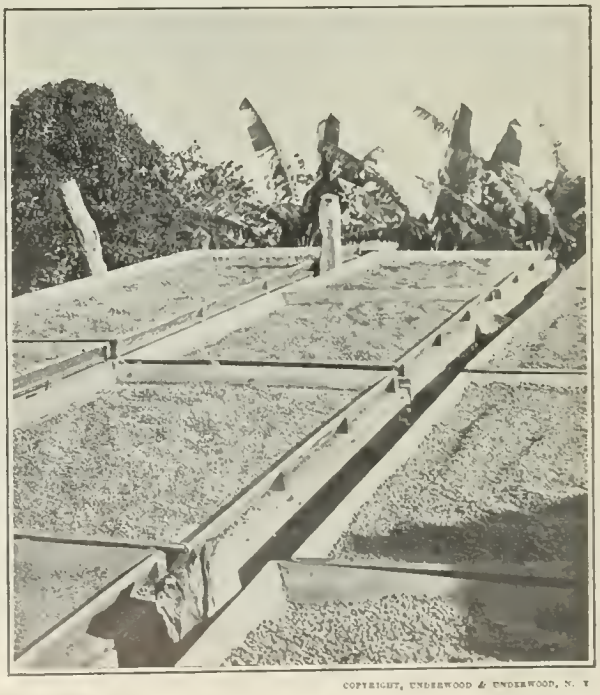
From the roaster, the beans pass to the "coolers," fitted with powerful exhaust fans which draw cold air through them to stop the roasting process, and then to the "stoner," which is an air-suction pipe generally about twelve inches in diameter and ten feet in height, the coffee being drawn up this pipe into a hopper, leaving the stones at the bottom to be discharged automatically. Finally comes the filling, by machinery, into bags, cans, etc.

The operation of roasting is easy to describe, but it requires much experience and good judgment to bring out the full strength, character and aroma.

A "light" roast should be of a cinnamon-brown color, uniform in appearance and free from specks. A "medium" roast should be deep chestnut. A "high" or "dark" roast should be of a chocolate-brown color and oily in appearance but free from burnt or scorched beans—which will spoil the flavor of any coffee, no matter how high grade. The "medium" roast is the most desirable for general retail custom.

So important is this process that a well roasted minor grade will yield a better liquor than the finest coffee a little under or over roasted.

Coffee loses generally about 15% in weight in roasting, and afterwards should always be kept as tightly sealed as possible, as it loses in flavor from contact with the air and the beans become tough and hard to grind.



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Drying Coffee Beans

Grinding, Preparation, Etc.

The manner of grinding or cutting the coffee bean depends upon individual taste and custom. Coarse-ground coffee is not generally desirable, as it requires too long an infusion to extract the full strength—and too much boiling tends to spoil both flavor and

aroma. A medium-fine grind is the most generally serviceable for ordinary home use.

There are many different formulas for preparing coffee for the table, the majority capable of being classified under the three following headings:

Infusion or drawing: putting the ground coffee into boiling water and keeping it hot on the range without boiling for eight to ten minutes. With ordinary care this method will produce a very pleasing beverage, but it does not bring out much of the stimulating property of the bean.

Decoction or boiling: putting the ground coffee in cold water, allowing it to come to a boil and keeping it boiling for a few seconds. This brings out more strength than the preceding method and makes an excellent liquor—but if the boiling is continued too long the fine aroma passes away.

For the "old-fashioned" boiling method, the white of an egg is first stirred into the ground coffee. The latter is then placed in the pot and the proper amount of boiling water is poured over it—the water, taken fresh, having previously been allowed to boil hard for ten minutes. The coffee is permitted to come to a good boil, is stirred thoroughly once and then placed on the back of the stove for ten minutes. If any grounds appear on top, they are stirred a little and allowed to settle. This process gives excellent results but it requires a good deal of care.

Filtration or distilling: by the use of a "percolator," the boiling water passing slowly through the ground coffee held in the center of the machine. This method is largely used because the result is nearly always uniform.

No matter which method is employed, the grounds should never be allowed to remain in the coffee for any length of time after it is made.

In hotels, restaurants and other establishments where it is brewed in large quantities, the coffee is generally held in a bag or other receptacle in the upper part of the urn, in order that the grounds may be the more easily removed.

The best general advice to the person wishing a good cup of coffee is to buy coffee *as pure as possible* and of flavor that suits the individual taste, to have it *fresh roasted, fresh ground to moderate fineness and fresh made in a scrupulously clean coffee-pot.* With these points secured, a little practice will produce a fine beverage by any reasonable process.

A little cold water dashed in boiling coffee checks the boiling and causes the grounds to settle, leaving the beverage perfectly clear. In Creole cookery, the same result is obtained by adding a small piece of charcoal.

French Coffee. The special flavor noticed in much of the coffee served in France is generally due to any one or all of the three following causes: (1) the addition of 10% to 30% of chicory, (2) the especially heavy roasting of the bean, and (3) the occasional addition of a little butter and sugar during the roasting. It is generally made in a percolator from fine ground coffee, the liquid being passed through the percolator two or three times to acquire greater strength.

Café au lait, "Coffee with milk" or "French Breakfast Coffee," generally means strong coffee served with boiling milk—about half coffee and half milk or to suit the individual taste.

Café noir, Black Coffee or *After Dinner Coffee*, requires an especially generous proportion of coffee, and percolation continued until the liquid is black.

Demi-tasse de café, or *café demitasse*, means literally only a small or half cup of coffee, but, carelessly used, the expression has come to signify *Café noir* or *After Dinner Coffee*.

COFFEE PICKERS

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Café à la creme is made by adding plain or whipped cream to good *Café noir*.

Vienna Coffee is prepared in a special urn which passes and repasses the steam through the (finely ground) coffee, thus retaining the full aroma. It is served with whipped cream.

Creole Coffee is prepared by slow percolation. The coffee, fresh roasted and ground, is pressed compactly in the filter of the pot and a small quantity of boiling water is poured over. When this has passed through, more water is added, the process being continued at intervals of about five minutes. The result is a very strong and rich extract, which may either be served fresh or be preserved in an air-tight vessel for future use. A small quantity—even so little as a tablespoonful—of good "Creole Coffee" is sufficient for a cup of coffee of ordinary strength.

Turkish Coffee is made from beans ground as fine as powder, placed in a pot (either large or "individual") with cold water and brought to the boiling point. It is never allowed to boil and is served as it is without straining or settling the grounds.

Dutch Coffee is prepared by cold water process from very fine-ground coffee held in a special filter with top and bottom reservoirs. It requires four hours or longer for the water to percolate through the coffee, and in its passage it extracts a large percentage of strength and flavor.

Russian Coffee is strong, black coffee.

Coffee Extract or Essence. Genuine coffee extract is made commercially by distillation—steaming and evaporating the liquid until it is reduced to the desired strength. One or two teaspoonfuls is generally sufficient to make a cup of coffee of moderate strength. For household purposes, it can be made with nearly the same result by following the formula for "Creole Coffee."

Coffee, whether raw or roasted, should always be kept away from all strong odors, as it absorbs them very rapidly. Roasted coffee (as already mentioned) should never be exposed to the air, as it will quickly lose its flavor and aroma.

The Principal Coffee Growing Countries.

The first division of coffee is into "strong" and "mild." The *Rios* and some of the *Santos* constitute the "strong" varieties. The other part of the Santos crop and practically all the importations of other kinds, come under the heading of "mild."

The next classification by the wholesale merchant is by the country of export, subdivided in each case into various growths and grades.

BRAZIL.—Rio, Santos, Bourbon Santos.

The best known Brazil coffees are the *Rios* and *Santos*.

Rio coffees are heavy in body and with a distinctly characteristic flavor and aroma. The beans vary in size and color from large to small, and dark green to light yellow.

Santos coffees are generally milder than the "Rios" and very smooth and pleasing in the cup. The finer grades are of such excellent quality that they have been widely substituted for even high grade "Javas." They range from large to small and from green and rich yellow to very pale yellow.

"Red Bean" Santos is obtained from the Campinas district. It is considered more "flavory" and richer than the yellow or greenish beans.

"Bourbon Santos" is a small bean variety which has grown rapidly in popularity on account of its acid or vinous character. It was formerly sold as "Mocha" or "Mocha Seed."

Among the numerous other types of Brazilian coffee are "*Victoria*" or Capotinea, *Bahia* and *Liberian Rio.*

The most generally accepted grades of "Rio" and "Santos" are from 1 to 10 or as follows:

Fancy—large and uniform in color and in size; clear and perfect in selection and attractive in general appearance. Divided into "Light," "Medium" and "Dark."

Prime—very clear and regular in color and size, but not so rich in appearance as "Fancy." Divided into "Light," "Medium" and "Dark."

Good—uniform in color and size, but ranging from "clear" to "strictly clear." Divided into "Light," "Medium" and "Dark." This is the average or "standard" grade.

Fair—only moderately clean and liable to contain some broken and otherwise imperfect beans.

Ordinary—irregular in color and size and liable to contain many black broken beans and a proportion of hulls, etc.

Common—the lowest grade, mixed with bad and broken beans, chaff, hulls, etc.

COLOMBIA.—Bucaramanga, Bogota, "Savanilla."

Colombia has in recent years grown largely in importance as a coffee raising country and its natural advantages promise still more abundant production.

The two best known varieties are *Bucaramanga* and *Bogota*, which rank among the finest of American coffees.

The *Bucaramanga* bean is large and solid and the liquor full, fragrant and aromatic. France and the United States take practically all the exportation.

Bogota is a mountain grown coffee, the bean large, uniform and bluish-green, and the liquor full-bodied, round and fragrant. It is the basis of a great number of high-grade blends.

Medellin is, in the best grades, also very highly considered.

Other lesser types are *Cauca*, *Ocana*, etc.

Colombia coffees are also commercially known as "*Savanillas.*"

VENEZUELA.—Maracaibo, La Guayra.

The two best types of Venezuela coffee are *Maracaibo* and *La Guayra.*

Maracaibos are divided into several varieties, among them Cucuta, Merida, Bocono, Tovar and Trujillo (the lowest), graded as Washed (the best), Prime to Choice, Fair to Good, Ordinary, etc.

Both the Cucuta and the Merida in good seasons often equal the finest coffees grown anywhere. The beans are large, round and solid, rich-yellow in appearance and making liquor of full ripe flavor.

The other three varieties mentioned are generally smaller and unattractive in appearance and their liquor is light, but they are useful for blending, as their flavor is usually pleasant.

La Guayra coffees are best known by the Caracas, Porto-Cabello and Coro types.

Choice "Washed" Caracas is an exceptionally fine coffee—rich, heavy and fragrant. The bean is large and bluish.

"Milled" Caracas makes only fair liquor. The bean is yellowish and medium size.

"Porto-Cabello" and "Coro" coffees, also largely consumed, vary in the bean from medium to small and from dark to pale green. They are classed as a mild coffee, but their liquor develops good strength as well as flavor.

Among other varieties largely exported are *Carupano* and *Angostura.*

CENTRAL AMERICA.—Guatemala, Costa Rica, Salvador.

The finest Central America coffee is generally that from *Guatemala,* where cultivation is conducted on the most modern lines. The best known type is the "Coban," a large shapely blue bean producing a fine aromatic liquor.

Next in importance is the output of *Costa Rica.* The raw bean averages large and handsome and roasts to very good advantage, but the bulk of the best grades goes to Europe, and many shipments of the lower qualities sent to the United States give a liquor somewhat bitter and not very desirable.

The *Salvador* bean is generally of medium size and, in the best grades, is well developed, heavy and greyish-yellow. The liquor is fairly strong, but of only moderate flavor. The poorer grades are very uneven and broken and the liquor weak.

Nicaragua coffee closely resembles the medium grade of Salvador.

Honduras produces a yellow heavy bean of attractive appearance. The liquor is smooth and pleasing but rather weak and frequently marked with a cocoa odor.

Panama has not yet established any high records, but the quality of the product has been considerably improved in recent years.

MEXICO.

Mexican coffee is roughly divided into "Washed" and "Unwashed," the former being the choicer. The bulk of the export formerly went to France, but the United States receipts have grown largely during recent years.

The two "fanciest" types of Mexican beans are the *Tepic* and *Caracolillo,* the latter being generally known here as "Mexican Pea-berry."

Tepic, formerly known as "Mexican Mocha," is said to be grown from a later introduction of the Arabian shrub, so carefully cultivated that some judges consider the product fully equal in quality to that of the parent plant. The bean is small, hard and of steel-blue color, making a creamy, aromatic liquor. Very little of this variety is exported, local consumers taking nearly all the crop.

Caracolillo is a variety almost unique. As already noted, "Pea-Berries" are found to some extent in all coffee-bean crops, but the shrubs from which the Caracolillo product is obtained bear it almost exclusively.

After these two special types, which do not affect the general market, come *Oaxaca, Cordoba, Coatepec, Colima,* etc.

The *Oaxaca* (pronounced *Wah-har-kar*) bean is large and well developed, blue in color when new, but becoming whiter as it ages. The liquor is strong, rich and fragrant.

Cordoba is sometimes styled "Mexican Jack." The bean is large and yellow and the liquor rich and full, resembling a fine Maracaibo or a medium fine "Java."

The *Coatepec* bean is large, well developed and more acid than the preceding types.

Colima is a medium-sized bean, flat, fairly well developed and with liquor pleasing in flavor and moderately rich.

Small quantities come also from *Turpan* and several other lowland districts, but the quality is generally inferior.

JAVA AND OTHER DUTCH EAST INDIAN ISLANDS.

The Dutch East Indies, especially the islands of Java, Sumatra and Celebes, are famous as the largest exporters of fine coffees. They are best known to the lay public by the name of the island of Java, the most populous of the group and the central point

of Dutch commercial activity, but the greater part of the East Indian coffee consumed in the United States is of Sumatra growth. That from Celebes is generally rated the highest in European markets.

Other countries produce in certain sections beans as choice as the very best "Java," but the quantities they can export are comparatively unimportant. The greater output of the Dutch East Indies is partly due to the natural adaptability of soil and climate and partly to the systematic cultivation by native inhabitants under the rule of Holland. In spite of government care there is, however, much variation in the beans grown—a considerable quantity of those exported do not deserve the reputation the fine "Javas" have earned.

East Indian coffees are in this country principally graded by color—"Brown," "Yellow" and "Pale"—the darker beans bringing the highest prices.

This discrimination was originally founded on the fact that some of the choicest varieties of "Java" beans become at the same time browner in color and more mellow and pleasing in flavor in storage and transport—being in the former respect entirely unique. The distinction is not fundamentally accurate, as some of the light bean varieties are better than many of the dark types. In Europe, the yellow colored beans are preferred. When fresh, all East Indian coffees are light sea-green, or blue-green.

Dutch East Indian coffees, other than those grown on the island of Java itself, are now generally described in trade and government circles as "Dutch East Indian," or by trade titles, or by districts, as Padang, Mandheling, Corinchie, Timor, Kroe, etc.

The title "Government" is sometimes applied as a distinguishing title to coffee produced on plantations operated under government supervision—as are all of the old and many of the new plantations.

The title "*Old* Government Java" was at one time a name to conjure with, for, as first employed, it applied only to beans that had been held—sometimes for considerable periods—in the government storehouses. Until recently, nearly all the produce of the Dutch East Indies was sold by quarterly government auction, and any goods for which the upset price was not bid were held in the warehouses to await an improvement in market demands—the result being in many cases an improvement also in the coffees, spices, etc., by the opportunity thus given them to mature under the best possible conditions. The term long ago though deteriorated into a practically meaningless trade title from being applied indiscriminatingly to any brown East Indian coffee irrespective of growth or quality, and it is now "out of date," as the government auctions were discontinued in June, 1909, present sales being by contracts with firms or individuals.

"Plantation" or "Private Growth" coffees are those raised on plantations owned and operated by individuals in contra-distinction to those under government supervision. Some are of very high quality.

"Blue-bean Java" is a title occasionally applied to W. I. P. or "Washed" East Indian.

"Liberian-Java" is that grown from shrubs of the Liberian species. Its quality is generally inferior to the Arabian bean varieties.

ARABIA—"MOCHA."

Arabian coffee is universally termed "Mocha," though no coffee was ever grown in Mocha—which is only a shipping town surrounded by deserts, and not to-day even an important shipping point, as the opening of the Suez Canal transferred nearly all

the traffic to the ports of Aden and Hodeidah. This country is supplied from Aden.

The best Arabian and the true "Mocha" coffee is that from the province of Yemen. The most surprising point in connection with its cultivation is that though the coffee shrub requires in other countries rich soil and favorable conditions to produce an acceptable crop, here in Arabia some of the choicest coffee in the world comes from stunted shrubs growing in hot, sandy, stony mountain-side gardens. All conditions, climate and soil seem to be against the shrub's best growth, but by way of recompense it receives the most careful and painstaking human attention. The gardens are arranged on rocky terraces, one above the other, and are irrigated from large reservoirs of spring water placed above the highest.

There are two main crops during the year. The berries, instead of being picked, are allowed to ripen until they fall. They are then carefully gathered up, dried, hulled and cleaned with scrupulous exactness.

The separation of the finest "Mocha" beans by growers and merchants is in itself a study of infinite detail—they are assorted and re-assorted into a perfect graduation of sizes and qualities.

The true Yemen "Mocha" bean is very small, hard and round, regular in size in the best qualities, olive-green when new and a rich semi-transparent yellowish when aged. Its odor when fresh roasted is characteristic, and the liquor is creamy, rich, rather heavy, a little acid, and extremely aromatic and fragrant.

"Tehama" Arabian coffee—that from the province of Tehama—is distinctly inferior to "Yemen." The bean is of about the same size, but it is immature in appearance and often mixed with fragments of hull, etc. Its flavor is quite second-rate when drunk alone, but it imparts a pleasing fragrance and delicacy when blended with a good "Java," etc.

Abyssinian coffee from the vicinity of Harrar and properly called "Harrar Coffee" was formerly shipped via Aden as "long-berry Mocha." It is of the same color as the real "Mocha" but is longer and more pointed and has a rank, leathery odor.

WEST INDIAN COFFEE.

The West Indian islands produce a large quantity of excellent coffee, but the bulk of the finest grades is exported to Europe, as better prices can generally be obtained there than in this market. The greater part of the supply shipped to this country comes from the British West Indies, principally from Jamaica, and Haiti, with small quantities from Santo Domingo, Cuba and the Dutch West Indies.

The best *Jamaica* coffee, known as "Blue Mountain," is a bean of fair size, attractive appearance and bluish color, making a full, rich, fragrant liquor, but "Plain-grown," the variety chiefly imported, is a much inferior grade. The bean, large, whitish and flat, is generally "hully" and the liquor is strong and rather rank or "grassy" in flavor. It is employed almost exclusively for blending with beans of other varieties.

Haitian and *San Domingo* beans are large, flat and whitish. Their appearance is spoiled by crude preparation, which leaves them hully and includes broken beans, stems, etc., but their liquor is rich, mild and pleasant.

The best *Cuban* grades come from the Guantanamo, Alquizar and San Marcos districts and the Sierra Maestra plantations. The beans are large and whitish and rather especially rounded on the flat side. They are generally excellent in cup quality.

Porto Rico produces very good coffee, the beans regular and well-formed, from yellow to greenish in color, and making a very good flavored liquor, but the product

DRYING COFFEE AFTER "WASHING PROCESS"

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goes almost exclusively to Europe. Proposed Government co-operation with the growers may result in stimulating traffic with this country.

CEYLON AND INDIA.

There are several distinct varieties of *Ceylon* coffees, as follows:

"Native," grown in the lowlands—a large, flat white bean of poor quality.

"Plantation," the product of carefully cultivated modern plantations—the bean large, of light-bluish or green tint, well developed and very regular, giving a liquor which is smooth, rich and aromatic.

"Liberian-Ceylon," a hybrid of the Liberian species—the bean smaller and paler than the parent variety and the liquor less strong, but smooth and pleasant in flavor.

"Ceylon-Mocha," a small bean, very even and uniform—generally obtained by separating from the regular "plantation" crop. Both in appearance and flavor it resembles the genuine "Mocha."

The two best known varieties of *Indian* coffee are "Malabar," a small hard bean of fine quality; and "Mysore," a large bluish-green bean, giving a rich, strong liquor, resembling "Java."

ECUADOR.—GUAYAQUIL.

Coffees from Ecuador are generally known under the title of *Guayaquil*, from the general port of that name. The beans vary from medium to large, are fairly uniform in appearance and give good full fragrant liquor. They are quite largely shipped to the Pacific Coast States.

PHILIPPINES.

The coffee industry in the Philippines has in the past suffered from lack of proper cultivation, but it is only a question of time when it will fill an important position, for both soil and climate are admirably suitable. In spite of scanty attention and poor preparation, the better grades have won high esteem in European markets because of their rich flavor and pleasing aroma.

The beans are generally classed as *Luzon*, *Manila* and *Zamboango*, the two latter from the names of the shipping ports.

Luzon is a small bean type, hard in texture and rich in cup quality. If properly cleaned and prepared, it would rank high.

The *Manila* bean is medium in size, regular in shape and pale green in color, with fine aromatic liquor. It comes principally from the districts of Cavite, Batangas, La Laguna and the immediate vicinity.

Zamboango, from the Southern islands, is the poorest grade. The beans are large, yellowish and rather flabby and the liquor is weak and coarse.

OTHER COUNTRIES.

In addition to the countries referred to in the foregoing pages, there are a number of others which produce coffee to a considerable total, including some of very fine quality, but the imports into the United States are not sufficient in volume to affect market conditions.

COGNAC, pronounced *Kone-Yak*: the best variety of Brandy (which see).

COKERNUT: a method of spelling "cocoanut" introduced by the London Custom-House, in order to distinguish more widely between this and other articles spelt much in the same manner and extensively used in commercial circles—as *Cocoa*, *Coca*, *etc.*

COLA NUT: one of several spellings of KOLA NUT (which see).

COLD SLAW. See item under heading of SLAW.

COLD STORAGE. The cold storage system, first attempted about 1860, has grown to extraordinary proportions. It has revolutionized the meat supply and extended the fruit seasons. It has rendered possible an uniform distribution of fresh foods throughout every part of the country and carried the surplus, not only of America but also of Australia and Russia, to the markets of Europe. It has remedied immense waste which was formerly unavoidable, and in countless ways improved the world's food supply. Its system includes a transcontinental chain of big storage houses for meats, fruits, poultry, eggs, etc.; refrigerator cars running from ocean to ocean, and great steamers especially equipped for the transoceanic transportation of perishable food products.

The temperatures most suitable for preserving food products of general consumption are named elsewhere in this volume in the articles descriptive of each. The following table shows the *lowest* and *highest* temperatures to which the goods mentioned may generally be subjected without injury under the conditions stated. Any temperature below or above the degrees named is liable to damage them.

	Lowest Outside Temperature. Degrees Fahr.	Temperature Above Which Injury Occurs. Degrees Fahr.
Apples, in bbls., covered with straw	20	75
Apples, loose, packed in straw	28	75
Apricots, baskets	35	70
Asparagus, in boxes covered with moss	28	70
Bananas, in bulk and in boxes with straw	50	90
Beans, Snap, in barrels or crates	32	65
Beer, in kegs, packed in manure and shavings	32	75
Beets, in crates	26	70
Bluing	30	..
Cabbage, early or late, in barrels or crates	25	75
Cauliflower, in barrels with straw	22	70
Celery, in crates	10	65
Cheese	30	75
Cider	22	70
Clams, in shell, in barrels	20	65
Cocoanuts, in barrels or crates	30	90
Crabs, in baskets and barrels	10	65
Cucumbers, in boxes with moss	32	65
Drugs (non-alcoholic), packed in sawdust	32	..
Eggs, barreled or crated	30	80
Extracts (flavoring)	20	..
Fish, in barrels always iced	10	65
Fish, canned	18	..
Ginger Ale	30	..
Grapes, packed in cork	34	..
Grape Fruit	32	..
Ink	20	..
Lemons, in boxes or crates	32	75
Lettuce, in boxes or crates	26	70
Melons	32	80
Milk	32	75
Mucilage	25	..
Mustard, French	26	..

(Continued on following page.)

	Lowest Outside Temperature. Degrees Fahr.	Temperature Above Which Injury Occurs Degrees Fahr.
Olives, in bulk, in barrels	28	..
Olives, in glass	25	..
Onions, in barrels, boxes or crates	20	80
Oranges, in baskets, boxes, barrels or crates	28	80
Oysters, in shell, in barrels	20	65
Oysters, shucked, in barrels	30	70
Parsley, in baskets	32	75
Parsnips, in baskets or barrels	32	70
Pears	32	80
Peaches, fresh, in baskets	32	80
Peaches, canned	20	..
Peas, in baskets or barrels	32	80
Pickles, Brine, in bulk, in barrels	22	..
Pickles, Brine, in glass	20	..
Pineapples, in barrels, in crates, or in bulk	32	75
Plums, in boxes with paper	35	75
Potatoes, Irish, in barrels or baskets	33	80
Potatoes, Sweet, in barrels or boxes	35	80
Preserves	20	..
Radishes, in baskets	20	65
Rice, in barrels and sacks	20	90
Spinach, in barrels or crates	15	75
Squashes, in crates	32	75
Strawberries	33	65
Tomatoes, fresh	33	90
Tomatoes, canned, in boxes	28	..
Turnips, late, in barrels	15	75
Vinegar, in barrels	22	..
Watermelons, in barrels and in bulk	20	85
Waters, mineral	28	..
Wines, light	22	..
Yeast	28	65

Foods which have had the benefit of proper care in cold storage are just as wholesome and nutritious as the fresh items and in a majority of cases retain their full flavor. They should, however, be used as speedily as possible after their removal from storage as they are somewhat more susceptible to "spoiling" than fresh foods—this is especially the case with poultry and fish.

The methods of modern refrigeration are described in the article on ICE AND REFRIGERATION.

COLLARD: a variety of smooth-leaved cabbage whose leaves do not form a head. The term is also sometimes applied to the leaves of any kind of cabbage when cut very young for use as "greens."

COLOR and COLORING MATTER. A great improvement has been made during the last few years in the class of coloring matters employed in the preparation of foods, candies, etc. The use of unwholesome chemicals has been practically eliminated and there is no longer any reason why the consumer should look suspiciously at an attractively colored confection. Every tint desired can now be obtained in perfectly harmless vegetable and other extracts, supplemented by a number of coal-tar or aniline dyes approved by the Government after painstaking analysis and investigation.

The dyes referred to are employed in such minute quantities that they cannot harm anyone. A quarter of an ounce of "orange," for example, will give a strong yellow color to 500 pounds of candy.

The animal color most used is Cochineal (red). Vegetable colors are derived principally from Beets, Currants, Heliotrope, Indigo, Litmus, Magenta or Fuchine, Persian Berries, Rhodites (a salt of the Rose), Safflower, Saffron, Spinach and Turmeric.

The use of artificial coloring matter still needs—and in most states receives—very close inspection and regulation. There is no longer, except in very flagrant cases, any danger to health, but proper control is necessary to prevent commercial fraud by the use of colors—i. e., so improving the appearance of inferior articles as to make it possible to sell them at the price of better class goods. The use of colors solely to enhance the enjoyment of foods—as in candy, liqueurs, and many other articles—is entirely legitimate. To do so to conceal their inferiority, is reprehensible.

Colors for domestic uses are retailed in both paste and liquid forms.

COLT'S FOOT: a plant named from the shape of its leaves. It is supposed to possess medicinal properties, and to alleviate coughs, asthmas and chest troubles, its leaves being smoked as a tobacco.

Colt's Foot Candy and Colt's Foot Rock are confections based on the herb or its flavor.

COMESTIBLES: a term borrowed from the French, used in England and Continental Europe to embrace the entire class of edible goods.

COMFITS: "Pan-Work" candies, such as Sugared Almonds, with a distinctive center covered by successive coats of sugar (see CANDY).

COMPOTE. See list of *Culinary Terms* in APPENDIX.

COMPRESSED VEGETABLES: vegetables evaporated at a comparatively low temperature, from 120° to 140° Fahr., until they are well shrunk but have not become brittle, then spread in layers and compressed into cakes about ½ inch thick. The cakes are frequently stamped into "one-ration" tablets of about 1 ounce each. They are very useful under some conditions, but unless carefully and successfully prepared they are liable to have too strong a "hay" flavor to be generally liked.

COMPRESSED YEAST: the most powerful of all fermenting agents in domestic life, was introduced from Germany about 1862, and has grown in popularity until thousands of wagons make the daily rounds of the grocery stores to supply fresh cakes, and exchange the stale. See article on YEAST.

COMUS: the "god of revelry." The luxuries of the table are called the "gifts of Comus."

CONCORD CLARET: a wine of claret type from the Concord grape.

CONCORD GRAPES. See general article on GRAPES.

CONDENSED or EVAPORATED MILK. The invention of the process of condensing milk is generally attributed to Gail Borden in 1856, but some authorities assert that it was invented in Switzerland. In view of the enormous present dimensions of

the industry, it is interesting to note that the Patent Office Examiners were with difficulty induced to grant a patent because they insisted that milk could not be evaporated in a vacuum.

It was the exigencies of the Civil War which first secured national recognition for condensed milk and advertised its merits throughout the world. It soon after became a commodity of universal use on ocean steamers and in mines, forests and construction camps, reaching ultimately every nook and corner of the universe.

There are to-day more than two hundred factories in the United States, all using the vacuum process. The industry consumes yearly more than 600,000,000 pounds of fluid milk and the product totals to between five and six million cases of forty-eight cans each.

The fundamental requirement of all first-class condensed milk is absolutely pure milk produced under the most hygienic conditions. As typical of the pains taken to ensure this, one may take the contract between a first-class factory and the farmer. It is full of all manner of stringent conditions. The factory binds itself to take an average of so many pounds of milk per day for each month of the year, at so much per hundred pounds—the price being higher during the winter than during the other months. The farmer, on his part, agrees that his cows shall be fed upon particular food, that they shall not eat turnips, brewery or distillery grain, or any other food that will impart a disagreeable flavor to the milk or reduce its richness; to hold the milk room at a certain temperature, and with a certain amount of ventilation; that the cows shall be kept clean and groomed; that the cans shall be washed and placed in the sun when they are not in use, and that they shall be turned down, bottom upwards, on a rack at least three feet from the ground; that he will report any sickness in his animals, employes or family, etc. In short, every possible precaution, including traveling inspectors, to see that all requirements are fulfilled, is taken to secure proper care and cleanliness. It is in these respects that milk used for making condensed milk is generally superior to the ordinary store milk.

To fully appreciate the principle employed in the manufacture of condensed milk, one must remember that the composition of milk includes from 84% to 90% water (see article on MILK). Any desired part of this water can be extracted without taking anything from its food value, for the latter is found in the fats, milk-sugar, casein, etc., all of which remain in the condensed or evaporated product.

In the manufacture of *Sweetened Condensed Milk,* the liquid milk is strained, cleansed in centrifugal separators, heated to the proper temperature to expel the gases of the milk and destroy the germs, again strained, mixed with a certain quantity of standard granulated sugar and run into vacuum pans where it is "condensed" by evaporation—boiling in a vacuum at a very low temperature—of part of its water contents. It is then ready for canning.

The vacuum pan employed is an egg-shaped copper vessel heated by interior steam coils and an outside steam-jacket around the lower portion. In one side of the dome is a small window, through which a light illuminates the interior, and opposite is an eye-glass through which the condition of the contents may be observed. The pan is also provided with a vacuum gauge, test sticks, etc.

Good sweetened condensed milk will keep for years, but all kinds will gradually thicken in time—poor brands naturally becoming thick and hard far sooner than well made full-cream products. The cases should not be stored near boilers, steam pipes or any extreme heat. At home, as a can seldom outlasts the day, it is not likely to spoil.

but the best place for it is in the refrigerator, so covered as to prevent it from absorbing the flavors of meats, etc.

The *Unsweetened Condensed Milk,* largely used for city consumption and delivered in bottles, is made by the same method as the *Sweetened* except that the sugar is omitted. It is not intended for long keeping.

Evaporated Milk is the trade designation for milk, without sugar addition, evaporated in vacuum pans to the consistence of cream, then run over cooling pipes and into cans and immediately sealed, followed by the same "cooking" for sterilization purposes as any other canned goods. The result is an unsweetened product which will keep good almost indefinitely. After coming from the sterilizer, the cans are agitated in a shaking machine which breaks up the fat globules and are then stored in warm rooms until "cured" to the right degree.

Though the same principle is employed in all condensed and evaporated milks, there is plenty of room for discrimination in purchasing different varieties. The best grades should be creamy-white, smooth, free from a "cooked" taste, of just the right consistence, etc. Furthermore, there is a wide range in food values, for the latter naturally depend on the amount of water extracted.

Evaporated milk of good quality is, when diluted with two-thirds of its bulk of pure fresh water, almost if not quite the equal of fresh milk.

U. S. "Standard" Condensed or Evaporated Milk must contain not less than 7% of milk fat and not less than 28% of milk solids, including milk fat.

CONDIMENTS: substances taken with food to season or improve its flavor, or to render it more wholesome or digestible. They include such articles of general consumption as salt, vinegar, spices, etc. A majority of them, in moderation, stimulate both appetite and digestion, but their excessive use tends to vitiate the gastric juice and injure the stomach.

CONFECTIONERY. See article under heading of CANDY.

CONSERVE: a word often used as of the same meaning as "preserves," but really a term of pharmacy or of candy making. Conserves are fresh flowers, fruits, roots, etc., preserved by beating with powdered sugar to the consistence of stiff paste, the object being to retain as much as possible of the natural properties of the raw fruit, etc. The conserves of the candy maker are made for consumption as sweetmeats; those of the druggist are frequently employed as a vehicle for medicines. To the working confectioner, the term "conserves" means sugar and added ingredients so cooked as not to produce a "grainy" effect.

CONSOMMÉ. See sub-head in article on SOUPS.

COOKERY. The fundamental principles of cookery may for general consideration be divided as following under the headings of Par-boiling, Boiling, Steaming, Stewing, Roasting and Baking, Broiling, Frying and Sauter.

Par-boiling is a process principally designed to improve the appearance of poultry, tongues, etc. It imparts a whiter color and softens some items, while adding firmness to others (as Sweetbreads). The usual method is to put the article in cold water,

gradually raise the temperature to the boiling point, then take it out, plunge in cold water and leave there until quite cold. It is later removed and wiped dry, preparatory to dressing.

Par-boiling meat, although it renders it more sightly, lessens the nutritive qualities by abstracting a portion of the soluble salts which it contains, especially the phosphates, and thus deprives it of one of the principal features which distinguish fresh from salted meat. Animal food, before being dressed, may be washed or rinsed in cold water without injury, provided it be quickly done; but it cannot be soaked in water at any temperature much below the boiling point without the surface, and the parts near it, being rendered less nutritious.

The term "blanching" (which see) is sometimes but incorrectly employed in place of "par-boiling."

Boiling, in the general culinary acceptance of the word, is the simplest and, when properly performed, the most economical method of cooking, as the cooked flesh and the accompanying broth represent practically the entire nutritive value of the raw food.

The actual boiling temperature, 212° Fahr., should be maintained throughout the cooking of all green and a majority of other vegetables, but in the cooking of meats it should be restricted to the first five or ten minutes—after that, the meat should be "simmered" at a temperature of 175° to 185° Fahr. The first few minutes' boiling coagulates the albumen in the surface of the meat, forming a kind of hard envelope which prevents an excessive amount of the nutritive elements escaping into the water —then the "simmering" cooks the inside but leaves it tender, as the heat which reaches it is not high enough to harden it as the outside "envelope" is hardened when the water is allowed to boil. The pot should always be covered to avoid loss by evaporation, and the food should always be kept covered with water—if more water is required to take the place of that lost by evaporation, hot water should be added so as to avoid changing the temperature.

Fresh meat for boiling should always be put into *boiling water;* salt meats into *cold water.*

No exact rules can be given as to the time required to boil foods properly, but moderate care and judgment will nearly always suffice to determine this point.

(See also additional suggestions at the end of the article on BEEF and in the article on VEGETABLES.)

Boiling Meat for Broth. When strong broth is desired more than the meat itself, the meat should be put into *cold water,* as that permits a large part of the nutritive ingredients to escape into the water, then gradually brought to a boil and thereafter simmered until done. See also article on MEAT EXTRACT.

Steaming: is slower than boiling, but with proper utensils it is considered especially desirable for the cooking of small pieces of meat and some vegetables and puddings.

Stewing follows the same theories as "Boiling," for it is nothing more nor less than "simmering" in a smaller quantity of liquid the meat and liquid being served together as a "stew" instead of separately as "boiled meat" and "soup" or "broth."

It offers the great economic advantage that, properly performed, it will render tender, palatable and nutritious the coarser, cheaper parts which would seem undesirable if broiled, roasted or baked.

CORN

The meat chosen should have little fat, the cooking should be slow and easy, the scum and fat should be removed occasionally and the pot or pan should always be covered. The meat is frequently partly fried ("browned") or par-boiled before setting to stew.

Roasting and Baking. Old-fashioned "roasting" consisted in cooking meats on a spit before an open fire, as still done in England, but in this country the term is now applied almost exclusively to meat cooked in the oven. The term "baked," formerly applied to all foods cooked in the oven, is now confined to fish, vegetables, etc., as "baked weakfish," "baked potatoes," etc.—meats such as beef, lamb, etc., are similarly cooked but are known as "roast beef," "roast lamb," etc.

"Roasting" involves a considerable loss of weight, but it has always been and still remains one of the most popular methods.

The chief points to be observed are:

(1) To *keep the oven clean.*

(2) To regulate the temperature to avoid both waste of time by too slow cooking and poor results by excessive heat.

(3) That the greatest heat should be for only the first ten minutes, to obtain the outside "envelope" of coagulated albumen to retain the juices—as mentioned under the head of *Boiling*—and then should be more moderate—and steady.

(4) That the meat must be basted frequently, as this greatly assists in the cooking, keeps the meat juicy and improves the flavor.

Both roasting and baking develop the meat extractives or flavor to a high extent, lightening the meat at the same time by the melting of some of the interleaved fat and changing some of the connective tissues into gelatine.

Braising is a popular French method which may be described as a combination of roasting and stewing. Small joints or pieces of meat are placed in a "braiser"—a shallow stewpan with a closely-fitting, grooved lid—and the cooking, very slowly done, is started on top of the range and finished in the oven.

The braiser is always lined with a "mirepoix," a layer of slices of bacon or ham, vegetables, herbs, etc., and the meat is generally moistened with stock—broth of meats, vegetables, etc.—or stock and wine. Delicate meats are protected by covering with buttered paper. The result is a very savory and aromatic dish.

Broiling is the principle of old-fashioned roasting applied to smaller pieces of meat. Important points to be remembered are:

(1) To keep the gridiron clean and well greased.

(2) To have a clear, bright fire.

(3) To season the meat before putting it on the gridiron.

(4) To quickly harden both sides to avoid loss of juices.

(5) To avoid dropping fat into the fire, as this results in jerky, smoky flames which are liable to spoil the flavor of the meat.

(6) Not to over-cook.

Frying has been erroneously described as "boiling in fat"—in effect it more nearly corresponds to the principle of roasting, as fat or oil attains a much higher temperature

than water and more effectually seals the outside of the meat, etc., being cooked.

"Dry frying" signifies the use of only a small quantity of fat or oil.

"Deep" or "wet" frying is the use of sufficient fat or oil to cover the article being cooked. Butter is not suitable for deep frying as it is liable to burn before the food is cooked. Olive and other high-class vegetable oils of similar character, do not offer this objection.

Care should be taken to avoid over-frying as the result is to make foods very indigestible.

Sauter means "to toss." The food is "tossed" by moving the pan quickly back and forward over a brisk fire. When applied to meats, it is practically the same as "dry frying." When applied to items such as French peas, for example, the "tossing" is continued only long enough to heat them through.

COON: a colloquial form of RACCOON (which see).

COPRA: the meat of the cocoanut, dried. See COCOANUT.

CORDIALS. See general article on LIQUEURS.

CORDON BLEU, *"Blue Ribbon"*: a term applied to a first-class cook, generally to female cooks. The *"Blue Ribbon"* originally represented an ancient French order of Knighthood and was first conferred upon a female cook by King Louis XV at the suggestion of Madame Du Barry.

CORDON ROUGE, *"Red Ribbon"*: a culinary distinction granted by an English society to clever cooks, both men and women, and others who have invented valuable methods of preparing foods, etc.

CORIANDER SEED: the fruit of a small plant, growing chiefly in the south of Europe. It is used as a culinary flavor, especially for curries, in confectionery, and to aromatise spirituous liquors.

Coriander

CORK: is the outer layer of the bark of a species of oak tree which grows in Southern Europe and along the North African coast. It is principally cultivated in Spain and Portugal, those two countries furnishing the greater part of the world's supply.

Cork Tree

The first stripping is taken when the tree is from fifteen to twenty years old, the cork bark being subsequently removed every eight to ten years. The first two "crops" though are of poor quality and are suitable only for coarser commercial purposes. The bark for bottle corks is not obtainable until the third stripping and each coat thereafter is generally better and finer than the one preceding.

The stripping takes place during the months of July and August, the bark being taken off in sections. After removal, it is scraped and cleaned

and then flattened by heating and pressing. It is then ready for manufacture or exportation.

For making "corks" for bottles, the cork is cut into strips and the strips into squares about the size of the particular cork desired. The squares are rounded and shaped by a broad sharp knife—by hand, for no machine has as yet been able to give continuous satisfaction.

In addition to its use for closing bottles, cork lends itself to a variety of other purposes—for life belts and jackets, hat and shoe linings, artificial limbs, architectural models, etc. The chips and cuttings are ground up and used in the manufacture of linoleum, etc. Old corks of all kinds have, consequently, real value and should not be thrown away.

So numerous are the commercial possibilities of cork, that in spite of the large annual production, the supply is never equal to the demand—prices are continually growing higher and substitutes are used wherever practicable.

CORKSCREW. A grocer who sells bottled goods and has no corkscrews in his stock, is short-sighted. They can often be sold to ladies, especially the Patent Lever types which involve no strain in pulling the cork. That a grocer must have one corkscrew admits of no question—customers naturally expect to have their purchases opened if they request it. A five-cent corkscrew readily given with a purchased bottle, especially to a new customer, will very often be much appreciated. The more easily a bottle, or can, is opened, the more quickly it is consumed, and the sooner the grocer may expect another order!

CORN. The title "corn" is used in a general way to designate all the principal grains —wheat, rye, etc.—but as particularly applied in this country it refers to "Indian Corn" or "Maize"—the most beautiful and luxuriant of all grain "grasses," resembling rather the sugar cane of the tropics than other cereals, and the most abundant in product. It is native to this country and was used as food by the Indians centuries before the era of Columbus, and probably by the civilization which antedated the "Red Man."

Corn is lower in protein than hard wheat and oats, but is fully equal in that respect to other grains and it surpasses many in the proportion of fat or oil. It does not make as good bread for general purposes as wheat because of its smaller proportion of gliadin, but otherwise its use as a food ranks very high in national importance —being enjoyed in a great variety of styles—coarse ground into hominy, cornmeal, etc., and boiled as "hominy," "mush" or "hasty pudding," or baked in hoe-cakes, johnny-cakes, corn bread and muffins, converted into syrup, ground fine as "corn-starch" for puddings, etc., eaten green—boiled with beans to make "succotash" or "on the cob," and canned for use when "green corn" is unobtainable—and very often preferably when it is.

Sweet Corn

The consumption of canned corn has grown to very large proportions, the annual output of the State of Maine alone reaching about twenty-three million cans a year. Maryland, New York, Indiana,

Ohio and other States are also constantly increasing the big totals of their products.

The average annual crop of corn in the United States is about 3,000,000,000 bushels. This staggering total is variously utilized. Part of it is employed in the starch, brewery, whisky, glucose and other industries and part in the food products already mentioned, but the bulk is transformed into meat—for corn is our most important live stock food, rounding out the steer and putting fat on the hog. Comparatively little is exported as grain, but a very large quantity, an annual value of a great many million dollars, in the form of meat products—cattle and swine on the hoof, fresh, salted and canned, and lard and various other items.

The greater part of the "*field corn*" grown is of the "Dent" species, sub-divided into innumerable varieties, but capable of a general grouping into two classes—"yellow" and "white." It is this field corn which is used in the manufacture of cornmeal, hominy, corn-starch, corn syrup, etc., and for cattle food.

Of the other kinds, the best known commercially are "*sweet corn*"—grown principally for canning and for green corn "on the cob," and *pop-corn* (which see).

Sweet corn is distinguished by its crinkled, semi-transparent appearance when dry. When cut for green corn, it should always be consumed as soon as possible after picking as it deteriorates rapidly in holding. The husks should be bright and fresh looking. Wilted or partly dried specimens should be avoided.

The corn grain may be divided into the germ (the oily part), the endosperm (the body of the corn, consisting principally of starch, together with some gluten), and the hull or "bran." In the manufacture of corn products such as starch, syrup, etc., the initial step is the separation of these parts by steeping, grinding, etc.

The *germs* are used in the manufacture of Corn Oil (see following).

The *hulls* are mixed with the water used in steeping the corn before separation, and the water containing the gluten separated from the starch of the kernel (see STARCH), the product being used as cattle-feed.

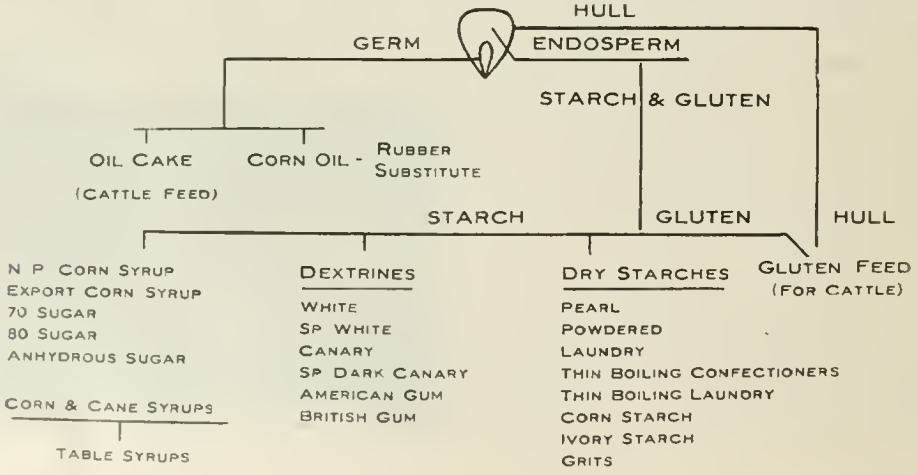
From the *starch* are produced three principal varieties of products:

(1) Dry starches of various qualities, both edible and laundry.

(2) Corn syrups and corn sugars of divers grades (see CORN SUGAR, CORN SYRUP and GLUCOSE).

(3) Dextrins (see DEXTRIN).

The Corn Products Refining Company furnish the following table, giving in detail the trade products of the grain. See also *Color Pages*, opposite and facing 186.



SWEET CORN

CORN FLOUR: made from white corn, is used in the manufacture of many pancake flour mixtures, and also to some extent by bakers and confectioners for dusting purposes.

CORNMEAL: is made from both yellow and white corn. The principal divisions are into "bolted" and "granulated." The Granulated represents the harder part of the corn, which remains granulated after grinding. The Bolted is the softer part which passes through the bolting cloths.

White cornmeal of both classes is used extensively in the South, for cooking, baking, etc. The White Bolted is used in the North also by bakers and confectioners for dusting purposes, and in some parts to a considerable extent in the making of corn bread.

Yellow Granulated is consumed in large quantities in the Northern States, but is seldom seen in the South, where the White Meal is almost universally preferred.

Yellow Bolted is used in the manufacture of Brown Bread, etc., and is exported to the West Indies for native consumption.

Cornmeal varies with the quality of the corn used and quickly deteriorates in warm weather or in heated houses. When fresh ground and promptly consumed, it has a much better flavor than when held in stock. In many country houses the careful housewife puts a large round stone in the center of the cornmeal firkin to prevent the meal from "heating."

In Italy, cornmeal mush called "Polenta" is the principal article of peasant diet for many months of the year.

CORN OIL: used in various degrees of refinement as a cooking and edible oil, in the manufacture of soap, lubricating oil, oil cloth, rubber substitute, etc., is made from the germs, which, after separation from the body and hull of the grain, are dried, ground and pressed into cakes, to be later subjected to high pressure, the oil running out into collecting tanks. When pure it is golden yellow in color and marked by a pleasing taste and aroma somewhat suggestive of freshly ground grain.

The residue of corn oil extraction is pressed into oil cakes, to be used as cattle food, etc.

CORN SALAD: also called *Fetticus, Field Salad, Fat Hen, Lamb's Quarter, Marsh Salad, Hog Salad* and *Doucette*: a salad plant, found in numerous varieties and known locally by many names. Several kinds form "rosettes," others resemble Seed Lettuce in appearance and growth. It makes an especially good salad mixed with lettuce, the outer stalks of celery or sliced beets, giving a slightly bitter taste which is generally very well liked.

CORN-STARCH: used in the manufacture of puddings, etc., is made from the raw starch of corn by breaking it up, washing and siphoning repeatedly, running over refining sieves of fine silk which remove any particles of fibre still adhering, putting through various refining processes, drying until the content of water has been reduced to only about 10% and finally pulverizing.

CORN SUGAR or *Commercial Dextrose*, etc.: used in the manufacture of caramel or sugar coloring, beer, vinegar, etc., is made in the same manner as Corn Syrup except

that the evaporation is carried on for a longer time. The end product is run into barrels or other receptacles where it crystallizes, and is then shipped either solid in the barrels or broken up by chipping machinery. See also "Commercial Dextrose" in article on GLUCOSE.

CORN SYRUP, or *Commercial Glucose,* etc.: is used as table syrup (see SYRUP); in confectionery, baking, etc. (see GLUCOSE), and in the manufacture of jams, vinegar and various other food products, in addition to the large quantity employed in other industries. In manufacture, raw (corn) starch is mixed with water to form what is known as "starch milk," then a small quantity of hydrochloric or muriatic acid is added and the whole is run into "converters"—large closed copper vessels, where steam is applied under about 40 pounds pressure, quickly changing the starch into a mixture of glucose and dextrose. The product is next run into a tank where alkali is added to neutralize the acid used and the liquid is then filtered and decolorized by passing through bone-black, in much the same way as cane sugar is purified, and finally evaporated to the proper consistence in vacuum pans.

CORNED BEEF, Pork, Etc.: meat preserved with brine.

Good grade corned beef is made from the rump, chuck and plate (See article on BEEF). It should consist exclusively of meat cut from young cattle in good condition. If canned, it should be well trimmed, the skinny and connective tissues removed and freed from gristle, bone, blood clots and excessive fat. No soft fat at all should be included. It should not contain more than about one thirty-second of jelly—which should be made only from soup stock and bones—and should not show excessive liquor when opened.

For *Corned,* or *Pickled, Pork,* see article on PORK.

CORNED BEEF HASH: as put up in canned form, consists of about 50% corned beef and 50% vegetables, chiefly potatoes and onions, seasoned with pepper and salt.

COS LETTUCE. See item under title of ROMAINE.

COSTERMONGER: a term applied to a person selling any kind of food—fruits, fish, vegetables, etc.—in the street from barrows or carts. The title is a corruption of "Costard Monger" or "Costard Seller," *Costard* being an Old English name for "apple" —first applied to a special variety, but later to any kind.

COTTOLENE: a frying and shortening material resembling lard, made from cotton-seed stearin (see COTTONSEED OIL) with enough beef suet added to give it the desired consistence.

COTTON. Crude cotton is the soft, woolly fibre contained in the seed "boll" of the cotton-plant. The boll bursts when ripe, presenting then the appearance of a small bunch of cotton-wool attached to the dried calyx. The fibre varies from one-half inch to two inches in length, is either white or yellow in color and is variously named from the land on which it is cultivated, the place of production, etc., as Upland Cotton, Sea Island Cotton, Florida Cotton, etc. The seeds scattered through the fibre are extracted by means of the machine known as the cotton-gin.

COTTONSEED, Flour, Meal, Oil. Cottonseed comes from the gin with short soft lint still adhering to the shells. Its general commercial treatment produces from each hundred pounds, about 46 pounds of lint and shells, 36 pounds of oil cake or "cake" and 16 pounds of crude oil. The lint is marketed as cotton batting, etc., the shells are used as fuel and fertilizer, the oil-cake as fertilizer and cattle-feed, and the oil for edible purposes, soap manufacture, machinery uses, etc.

The seed, when freed from the down, somewhat resembles a small coffee-bean in size and form.

Cotton Plant—the lower bolls ready for gathering

Cottonseed flour, or (whole) meal. The ground whole cottonseed has in recent years attracted attention as a valuable food material. The decorticated seed contains an average of 10% water, 19% protein, 20% fat, 24% carbohydrates, 22% fibre and 5% ash (see Food Values). It is too rich to be suitable for use as a substitute for wheat flour in bread, for example, but it may be advantageously employed in combination with it or other flour.

Cottonseed Oil, when thoroughly refined for edible purposes, serves as an excellent and inexpensive substitute for olive oil in cooking. It is also largely used as a salad oil, for packing sardines and other products, etc. "Choice" oil is of a light lemon color and mild and neutral in flavor. "Prime" oil is slightly darker in color and is sweet in flavor but without any seedy taste. *Cottonseed Stearin*, used in the manufacture of cottolene, compound lard, etc., is obtained by separation from the refined oil. The lower grades of oil and the residue separated in refining, employed for mechanical purposes, soap manufacture, etc., are reddish or brownish and unpleasant in flavor.

The value of the oil obtainable from the average American cotton crop is estimated at nearly one hundred million dollars, yet less than a hundred years ago the bulk of the seed was treated as a waste article and considered troublesome because of the difficulty of disposing of it. The real importance of the present extensive industry commenced with the still more recent date of 1855, when improved methods of decorticating the seeds were invented. Part of the seed has always been employed as a fertilizer, but even the full exploitation of its oil possibilities would not interfere with this use, as experience warrants the belief that the cotton-meal residue, after the extraction of the oil, is nearly or quite as valuable for fertilizing purposes as the whole seed.

COUMARIN: the flavoring principle of the Tonka Bean (which see).

CRABS: the most popular of all crustaceans. They are found in great variety, some existing entirely in the sea, others in shallow water, both fresh and salt, and yet others on land. They multiply rapidly and are in season all the year. At the mouth of the Chesapeake, the beach is often covered for miles with a layer of crabs a hundred feet wide, driven ashore by the wind during weather cold enough to partly numb them.

In this country the type principally consumed is the Blue Crab, but we also enjoy, particularly as a garnish, the tiny Oyster-Crab—which makes its home within the oyster shell, but is nevertheless a true crab. The Hermit Crab is another small soft-tailed variety which makes its home in univalves or single shells, as the Oyster Crab

in bivalves. As food, the two important divisions of Blue Crab existence are into *Hard Crabs* and *Soft Shell Crabs.*

Soft Shell Crabs, in season from April or May (according to the season) to October 15, are those which have just cast off their shells. At one stage they are called *Shedders.* They come to market packed in seaweed, and should be kept moist, and in such a position that the gills are always wet.

The male crab has a long white narrow tail turned around its under part. The female has a broad, brownish feathery tail. The meat principally eaten is that from the inner top of the back and the claws. The center of the body is filled with the liver, a soft yellow substance which is not generally consumed, but which some people consider a delicacy, especially when mixed with the eggs or "coral" of the crab.

Canned Crab Meat: is a convenient and desirable article for salad and similar purposes. The best packing is that in which the tender white "lump" pieces predominate or are exclusively used. Other grades consist chiefly of the smaller, but also very delicate, "flakes" and claw meat. An increasing quantity is imported from Japan.

The crab catch on the Chesapeake and the canning of the meat are thus described:

"Each of the boats carries six hundred feet of lines, anchors, buoys, etc. Small lateral lines are attached to the main line at intervals of eighteen inches. To these the bait is attached—tripe generally being used. At stated periods the boats are visited by a larger one which collects the catch and carries it to the factory. There the crabs are carefully assorted, and any that may have died during the trip are thrown out. Those that pass the inspection are placed in latticed cars, each holding two hundred and fifty dozens. The cars are run into steaming tanks and sixty pounds of steam is instantly turned on. Each individual crab, with one spasmodic twist, immediately relinquishes all earthly ambitions and dies, that man may profit by his involuntary sacrifice. There is no lingering torture, as in the old-fashioned way of boiling, to cause the meat to become fevered and soggy—it leaves the shell as white, sweet and dry as it is possible to get it. After the steaming the crabs are passed to the 'strippers.' These, standing before the trough of clear, cold water, dexterously remove the top shell, viscera, etc., and after carefully washing each crab pass it to the pickers, who occupy long tables running the length of the house. The meat is here picked out into half-gallon buckets to the tune of 'We'll Put John on the Island!' and 'I'm Traveling to My Grave,' a hundred colored voices taking up the refrain. Afterwards it is weighed and carefully examined to see that it is clear of shell—if not up to the standard, it is returned to the picker. From the weigher it goes to the canning-room, where it is packed in one and two pound cans, and then passed to the process room, sealed and cooked. Every can is afterward examined to see that it is perfect. If found so, it is varnished, wrapped in a handsome label and packed two dozen in a case, ready for market. Thus packed, it will keep for an almost unlimited time in any climate."

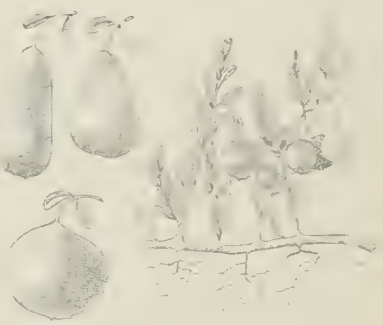
CRAB APPLE: the parent from which all the varieties of the cultivated apple have sprung. It is a small fruit, about one inch in diameter, having a harsh, acid taste, which renders it almost uneatable when raw. It is generally used for making preserves and jellies.

Crab Apple

CRACKERS. See general article on BISCUITS.

CRACKNEL or Egg Biscuit: a high-class plain biscuit made in various shapes, all thicker than the average biscuit but extremely light, very finely grained and of a peculiarly smooth and shiny surface. As only first-grade wheat flour, eggs and a small percentage of sugar enter into their manufacture—no water or other moistening being added—they are valued as a delicate and nutritious food.

CRANBERRY: a small acid fruit, growing in boggy and marshy ground, largely used for making tarts, sauces, jelly, etc. Four varieties are generally recognized—the Cherry, the Olive, the Bugle and the Bell, their titles being more or less descriptive of their shape.



CRANBERRIES—"Bugle," "Bell" and "Cherry" types

The berries were first cultivated at Cape Cod, and Massachusetts is still the largest producing state. The markets also receive large quantities from New Jersey and Wisconsin, and small supplies from several other states. The soil for producing them must be a marsh of muck or peat that can be drained a foot below the surface and is capable of being flooded in winter to protect the roots.

In the districts where they are grown extensively, the cranberry "picking season" is a bonanza to every man, woman and child. The pickers are generally paid about 75 cents a bushel. Two bushels is considered an average day's work, but experts often gather five, and sometimes seven bushels.

In Germany and some parts of the United States, the berries are gathered with a wooden comb, but the best method is to comb them off with the extended fingers. This does less injury to the fruit and to the plant.

Gathering Cranberries, Mass.

More money has been made and more lost in the culture of cranberries than in almost any other berry. Too frequently the crop is a total failure. The cranberry worm devastates the bushes, or an early frost kills the berries.

Cranberries vary widely in price. They are at times so cheap that it is interesting to know that if all soft berries are picked out, the remainder can be kept sound for months by putting them in jars, covering with water, setting in a cool place and occasionally replenishing the water.

Medium-sized berries are generally more solid and therefore keep better than those that are especially large. Great care should be taken in cool weather to avoid buying berries which have been bitten by frost.

The fruit of the High Bush Cranberry, or Cranberry Tree, which attains a height of eight to twelve feet, resembles the ordinary cranberry in flavor and general appearance but it is smaller and contains only one seed. In spite of its similarity, it is not related to the cranberry proper, belonging instead to the same species as the old-fashioned Snowball Bush.

CRAYFISH or Crawfish: a diminutive lobster found plentifully in our rivers and in season from September to April. It is popular as a garniture because of its form and color, and the flesh from its tail forms many delicate entrées, salads, etc.

CREAM: the fatty element of milk. In good rich milk the proportion varies from one-fifth to one-third. The proportion in milk sold by different dealers is usually easily ascertained by putting a sample of each in bottles or tubes and letting them stand undisturbed for forty-eight hours—the difference in color will distinguish the cream from the milk, and show the relative quantities contained. Most of the cream sold as such is now separated from the milk by centrifugal separators instead of allowing it to rise.

U. S. Standard cream must contain not less than 18% milk fat. State standards vary from 15% to 20%. Good cream by natural separation will average about 22%. By centrifugal separation it can be made to vary from very "light," as low as 9%, to very "heavy," as high as 55%.

CREAM CHEESE. See sub-head in general article on CHEESE.

CREAM NUT: one of several names for the BRAZIL NUT (which see).

CREAMERY: an establishment for the manufacture of butter, etc., from cream obtained from the farmers of the neighborhood. The product is sold and quoted as "Creamery" or "Creameries." See BUTTER.

CREAM OF TARTAR: is refined Argol, or Tartar, a substance found in the juice of grapes and obtained as a precipitate after its fermentation. It has an acid, cooling taste, and is used in the preparation of summer drinks, as an aid in raising bread and cakes, etc. Its sale by grocers has been greatly lessened by the increase in the popular use of baking powders.

There are usually from one to three inches of dark "grounds" or lees at the bottom of a full barrel of new wine after it has stood long enough to settle. After a certain time, the lees are removed in a "cake" and then dried and broken up till they are about the size of common sand and of a pinkish tinge, like the "tailings" of a Nevada quartz mill. This product is sold to tartar manufacturers.

In refining, the powdered lees is put into vats of hot water, cooked for about two hours and then run off into shallow receivers around which the crystals speedily form in a thick mass. The same water is used repeatedly as it always holds a certain quantity of tartar in solution.

Tartar from wine that has been cleared with plaster is richest in Tartaric Acid, while that formed in wine that is cleared with eggs is richest in Cream of Tartar. The tartar takes a tinge of pink or cream, as the wine in which it forms is red or "white."

Cream of Tartar is generally adulterated, sometimes to the extent of two-thirds or three-fourths of the bulk sold. As a majority of the articles added are insoluble earths, it can be tested by boiling it in water eighty times its own bulk—if any sediment remains, it is not pure.

CRÈME, *"Cream"*: a name applied to many compound spirits and liqueurs, as *Crème de Menthe*, etc. (see LIQUEURS). See also article on SOUPS.

CRÈME DE MENTHE, "*Cream of Mint*": a popular liqueur of peppermint flavor, some varieties containing also other aromatic principles. It is put up in "white," green and red colors and is generally sold in bottles of fancy shape.

CRESCENTS: (1) rolls of Vienna Bread dough in crescent shape; (2) shapes of Genoese Cake with water icing of various colors; (3) a kind of French bonbon.

CRESS, or *Pepper Grass*: a name applied to a number of pungent flavored plants of the mustard family, used as a condiment, for garnishing and in salads, etc. The leaves of the common varieties are very much divided and frequently curled. Those of the Broad-leafed types have the blade entire except for occasional notches along the edges.

In the market-gardens surrounding London, cress is grown in enormous quantities. It is generally sown together with mustard, the growth being forced and the leaves cut when from 1½ to 2 inches high. Rape is frequently substituted for Mustard and is considered preferable by some people—the flavor is not so pungent but the leaves are stiffer and keep fresh longer. See also WATERCRESS.

CROSS BUNS: small circular cakes or buns, so-called because marked with the cross, especially baked in many sections for consumption on Good Friday. They are popularly known as "Hot Cross Buns" and as such are in many English towns cried about the streets on the morning of Good Friday.

CROUSTADES: are cases or shells of biscuit or pastry composition, made in various shapes and used for the service of creamed fish, etc., and some entrées and desserts.

CROWN OF JAPAN. See JAPANESE ARTICHOKE.

"CROWNS." The word "crown," as commercially applied to dates, figs, raisins and some other food products, signifies "grade" or "quality." The higher the number used as a prefix, the choicer the grade—9-crowns raisins being, for example, a little choicer than 8-crowns, etc.

CRUSTACEANS: animals with jointed shells, as the lobster, etc. See SHELLFISH.

CRYSTALLIZED FRUITS. The theory of crystallizing fruit is to extract the juice and replace it with sugar-syrup which, upon hardening, preserves the fruit from decay but retains its natural shape.

The general method to boil the fruit—preferably unripe and in the case of "stone" fruits while the stone is still soft—until tender and then suspend it in strong syrup until it has become almost transparent, occasional evaporation keeping the syrup at the fullest strength. The fruit is next dried in stoves or drying rooms at a temperature of about 120° Fahr., until the syrup has crystallized.

Another process—that principally employed in Portugal, one of the most important producing countries—consists essentially of repeated boilings of the unripe fruit in strong syrup, followed by draining and, lastly, drying on trays in the open air.

A wide variety of fruits are now candied, among the latest additions being the "Prickly Pear" of California. They constitute a form of sweets admirably adapted

to the grocer's counter as they are closely allied to his regular stock and are very attractive in appearance.

The housewife can make a very showy confection by cutting the red heart of the watermelon into slices and then into fancy shapes, immersing them in crystallizing syrup and then allowing to dry. The pink and red color showing through the crystal coating makes an extremely pleasing appearance.

CUCUMBER: one of the most popular of salad vegetables. It is somewhat indigestible, but when properly prepared and dressed—with plenty of oil—it may be eaten without the slightest fear of evil consequences. The rind is considered poisonous, so paring should be thorough and deep.

Cucumbers when marketed should be crisp and firm to the touch. For sale fresh, they are selected according to both ripeness and size, the latter varying greatly with different varieties. For general pickling, they are gathered when from $2\frac{1}{2}$ to 5 inches long. Very small pickled cucumbers are known as *Gherkins* (which see).

Dill pickles are made either from fresh or salted cucumbers—the former being considered the choicer, but the latter having better keeping qualities. The Dill pickling process employs pickled dill seed or herb and "dill spice"—composed of allspice, black pepper, coriander seed and bay leaves—in addition to the brine.

The English cucumber, of which there is a small sale in Eastern markets, is round instead of triangular like the American, generally very much longer in proportion to diameter, more uniformly green and with very little seed.

In England and the Continent, cucumbers are often boiled in thick sections and served with hot butter or cream sauce.

CUMIN: a herb of the caraway type producing seeds of aromatic odor and taste which are popular in Europe and Asia for flavoring soups, pastry, liqueurs, etc., but are little used here except in curry powders.

CUMQUAT. See matter following title of KUMQUAT.

CURAÇOA: one of the most popular *liqueurs*. The best varieties consist chiefly of lemon and orange peels and bitter oranges distilled with clear spirit and rum. The finished product may be red, orange or "white" in color and is marketed both in tall narrow jugs and in bottles. It is excellent for flavoring sweet sauces, jellies, etc. See *Color Page* of, and article on LIQUEURS.

CURCUMA, Curcumin: a yellow coloring matter extracted from TURMERIC (which see).

CURRANTS. Two varieties of fruit, entirely different except in size, are known as "Currants"—one used as a *fresh*, and the other as a *dried* fruit.

The *fresh* currant, a small acid berry sometimes eaten raw but principally consumed in the form of jelly and cooked in pies, etc., is the fruit of a bush resembling the gooseberry bush. The most common type is the Red Currant. "Green currants" are Red currants gathered for cooking before they are ripe for the sake of their peculiar tartness. The White Currant is a similar variety produced by cultivation—it is less acid and consequently more pleasing for eating raw. The Black Currant is a separate

CUCUMBERS

SIX CHOICE VARIETIES OF CURRANTS

type and of different flavor—its juice, credited with being aperitive, is used for flavoring purposes and in making wine, liqueurs, jellies, etc.

The *dried* currant, extensively used in cakes, etc., is a small seedless "raisin," the fruit of a species of grape vine grown principally in the Grecian Islands of Zante (hence the term "Zante Currants"), Cephalonia and Ithaca and in the vicinity of Patras. The fresh ripe fruit is also locally employed in wine manufacture.

The title "currant" is a corruption of Corinth, the name of the now unimportant Greek town of Gortho at the time when it was one of the most prosperous of Mediterranean cities. During the middle ages, currants were known as *raisins de Corauntz*.

CURRY POWDER or Curry Paste: a condiment so highly seasoned that it is only within recent years that it has obtained a substantial foothold in temperate climates, though it has been extensively used in India and other Eastern countries for many generations. In India it generally consists of black pepper, cayenne pepper and a variety of spices—nutmeg, cinnamon, cloves, etc.—made into a paste or powder with turmeric. Its composition varies with different makers. That sold here usually contains chiefly turmeric, coriander seed, cayenne, black pepper, fenugreek seed, ginger and lime juice. It is retailed in packets, jars, bottles, etc.

The word "curry" is of (Asiatic) Indian origin and originally signified there a "stew"—generally of chicken, veal or lamb. The "finishing" or seasoning of the dish was frequently performed at the table by the host or some other member of the party, many English officers at one time priding themselves on the special combinations of spices, etc., that they had learned or invented, just as in every country many epicures pride themselves on their ability in making a salad or sauce. Later, the word came to be applied more particularly to the mixture of spices added than to the dish itself.

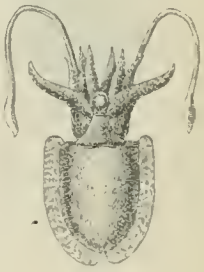
In India and Ceylon, curry sauces are added to a variety of dishes—generally a few minutes before serving or before the completion of cooking. Vegetables of all kinds, in addition to meats, poultry and fish, are so treated.

Curry is best kept in a bottle or jar, tightly corked or stoppered.

CUSK: a fish similar to and about the same size as the cod, sold fresh and salted.

CUSTARD APPLE, or *Anona, Coster, Bullock Heart,* etc.: local titles of a West Indian fruit somewhat resembling the Northern Papaw. It is a member of the Anona family, which includes the Sweet-sop, Sour-sop, Cherimoya, etc. It is generally round in shape, with skin varying from yellowish to reddish brown and greenish-white pulp of light texture which is sometimes described as of "Custard" consistence.

CUTTLE-FISH BONE: as known to the retailer, is the bone of a kind of shell-fish, placed in cages for birds to whet their bills upon it. It should be kept by all grocers who sell bird food as it is a small and profitable item and not liable to spoil. It is also sometimes used in the preparation of tooth-powders, for polishing metals, etc.



Cuttle-Fish

DAB: a title applied to several fish of the flounder family, found along the North Atlantic coast. The best known types are the Rough Dab and the Rusty or Sand Dab.

DAIRY: a term which covers everything pertaining to milk—the "dairy" may be the farm, milk-house, place of butter and cheese manufacture or retail store.

The best situation for a small dairy building is on the north side of the dwelling-house, in order that it may be sheltered from the sun during the heat of the day. Necessary features are ample ventilation, the absolute exclusion of flies and other insects and cool even temperature. The walls should be double, or at least especially thick, and the windows provided with shutters or doors.

Farm dairies have been largely superseded by cheese and butter factories or "Creameries," generally divided into a number of departments.

Association, State and Government dairy schools, and the Agricultural Experiment Stations have greatly increased the efficiency of those engaged in the industry.

DAMAGED GOODS. The liability of many goods to damage en route makes it important for the dealer to act cautiously in throwing the blame on the wholesaler or shipper. Nothing can be more unwise than to receive a shipment of goods by freight and return a damaged cheese by express, or to return an entire invoice because one item in it is wrong. Write carefully and coolly to the shipper, stating the particulars and saying that such articles are held subject to his order—and expense and trouble will be saved to all concerned. Many goods, especially in winter, are sent at the risk of the party ordering them and it is best to understand all the circumstances before making claims. Just claims should always be made promptly, but it is very dangerous to contract the reputation of making claims on trivial grounds.

DAMSON: a species of peculiar-flavored small black or blue plum, much used in the filling of tarts, etc., and in liqueur manufacture (see SLIVOVITZ). It is delicious cooked, but too astringent to be enjoyed raw.

DANDELION. The dandelion, one of the most common and familiar of spring flowers, is entitled to much higher place than it at present holds in general estimation

here. Perhaps because of excessive familiarity with it as a "weed," and partly also in some sections because it is regarded as of essentially medicinal properties, the average person ignores its manifold virtues and possibilities as a salad plant, alone or with other plants, but John Evelyn placed it among his famous seventy-three salad herbs and European gardeners and cooks have made it fashionable on the other side of the Atlantic. In this country also it is now extensively cultivated by Eastern market gardeners, being raised in hothouses between seasons.

The leaves when "blanched" by covering with earth, or potted and grown, from strong roots, in a warm dark cellar, are white, crisp and delicious. The young leaves resemble Endive. Even the ordinary green leaves lose much of their bitterness if washed and macerated in several waters and they make excellent spring "greens," especially if stewed with an equal quantity of sorrel leaves.

"Dandelion Coffee" and "Dandelion Chocolate" are made from the root, roasted and ground. The "coffee" is a mixture of ordinary coffee and powder, or extract, of dandelion root. The "chocolate" contains one-fifth chocolate and four-fifths root.

DATES. In Persia, Arabia and northern Africa, the date palm forms one of the principal sources of natural wealth. The wood and leaves are used in every imaginable way, just as natives in other parts of the world use the cocoanut, and the fruit, fresh or dried, frequently serves the Arab as his only food. Its preponderating content is sugar, the protein percentage being small, but the sugar is of so pure and wholesome a quality that it is very easily digested.

Part of a bunch of dates hung up to ripen

The date palm commences to bear fruit at from six to eight years, continuing to one hundred years—and often for several centuries. It is particularly valuable to humanity because it will flourish under conditions which kill all other vegetation. Excessive alkalinity of soil and a hot, dry climate, which would make any other growth almost impossible, result in its very finest product. The finest of all dates are the *Deglet Noor*, from the "Sunken Gardens" of the Algerian Sahara, the palms growing in dells of sand, the lower parts of the trunks buried in the sand and the strong rays of the desert sun reflected from the sandy slopes on each side.

In addition to its own growth, it has converted many parts of the Sahara into richly productive zones, the shade it affords making it possible to grow figs, almonds, etc., in the oases.

The palms are divided into male and female trees. In a wild condition there are generally about equal numbers of each, but under cultivation one male tree serves for from forty to one hundred female trees, the fertilization of the blossoms of the latter being insured by tying to every flowering branch a sprig of the male flowers.

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Gathering dates, Elche, Spain

Under ordinary conditions a good tree will bear annually from sixty to two hundred pounds of fruit, the amount being sometimes increased by careful cultivation to from four hundred to six hundred pounds. The fruit is borne in bunches weighing from ten to forty pounds, hanging directly beneath the feathery head of the palm, the individual dates adhering to numerous slender twigs attached to the central stems. As the dates do not all ripen at the same time, the branch, after cutting, is usually placed in a dry and shady location for the green fruit to mature. For specially early fruit the first ripening dates are sometimes picked from the bunch before the branch is cut.

There are three principal types of dates—the *Sweet*, the only variety known outside the home of the palm; the *Mild Sweet*, generally eaten as a fresh fruit; and the *Dry* or "*Camel*" date, preferred by the Arabs as a general food article, both pressed whole and ground into date flour, as under proper conditions it will keep for years. The flavor of the Camel Date is excellent, but it is too dry to correspond to the ordinary consumer's conception of what the fruit should be.

Of the Sweet Dates, the choicest are generally those which are large, softish but not sticky, not too much wrinkled, of a reddish or yellowish brown on the outside, with a whitish membrane between the flesh and the stone.

Nine-tenths of the supply imported into the United States comes from Arabia, chiefly by way of Smyrna. The bulk arrives pressed in large boxes, gunny bags or frails, but the finer types are packed in small fancy boxes, baskets, etc.

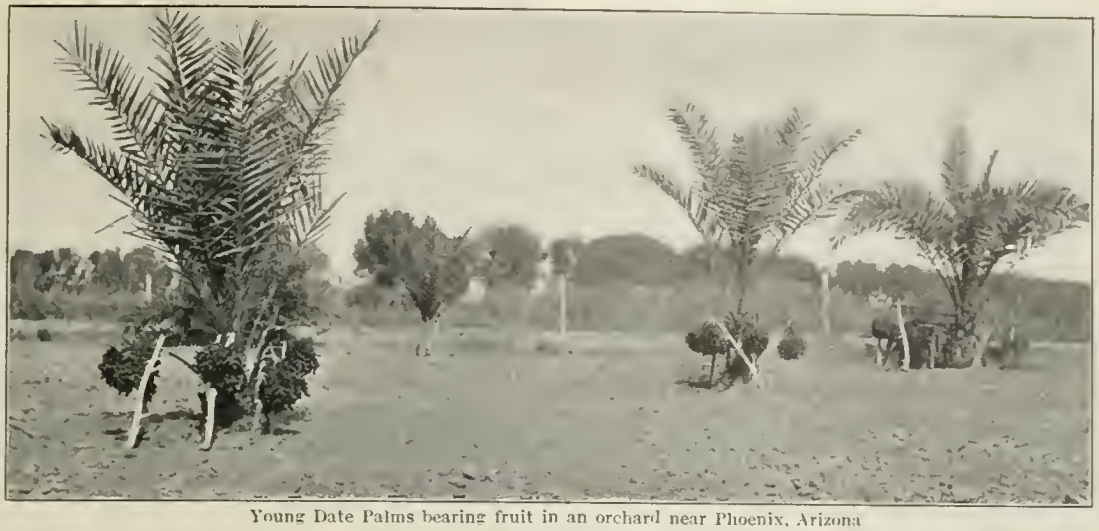
The choicest dates are those from Tunis, Algiers and Morocco. Among the best known varieties are the *Deglet Noor*, already referred to; the *Tafilat* from the Morocco Sahara; the *Menakher*, a long, large brown date from the Tunis Sahara, and the *Rhars*. The high price of these "fancy" dates is due to European competition for the comparatively limited supply.

Fard dates are a black, rather hard variety, extensively used for stuffing. *Persian* dates are generally lighter in color and of softer flesh.

The Rhars and similar varieties are especially full of sugary juice, and the Arabs make "Date Honey" from them by hanging the bunches up to drain. The fruit used is afterwards packed for general consumption, sometimes pounded and pressed into cakes.

A special method of preparation for the best oriental trade is to press out the juice of a certain number of dates and use this as a syrup in which to pack other rich dates in large vases.

DATES



Young Date Palms bearing fruit in an orchard near Phoenix, Arizona

The fermented sap of the palm, and also the fermented juice or syrup of the crushed fruit, are consumed locally as Palm Wine or Date Wine, etc.; the young leaves may be cooked as "Palm Cabbage," and the stones are ground into "Date Coffee," for human use or for cattle food, or are pressed to obtain "Date Oil."

In other parts of the world are found numerous special varieties of the date palm, among the most noteworthy being one common to South India and the East Indies, which is even higher in sugar content than the African or Arabian type. Date sugar from this palm is a commercial product of considerable value.

Another small fruited species gives a specially desirable date meal.

A considerable measure of success has already rewarded efforts to grow dates in this country, in several parts of California, Colorado and Arizona. The climatic and soil conditions have proved entirely suitable, and the result will probably be the transformation of sections so alkaline as to be otherwise worthless, into richly productive areas. The value of the product is indicated by the importation of twenty or more million pounds every year.

Stuffed dates are prepared in constantly increasing variety—filled with almond and other nut meats, separately or mixed with date, fig or raisin meat or the latter without the nuts; ginger, peanut or walnut butter, various forms of confectionery, etc.

DATE PLUM: a name applied to the American Persimmon (See PERSIMMON).

DECANTATION: the operation of pouring or drawing off the clear portion of a liquid from the impurities or grosser matter that has subsided. It is commonly performed either by gently inclining the vessel, or by a syphon or pump. See WINES.

DECANTER: a bottle especially designed for the service of wines, liquors, etc.

It is often difficult to clean decanters, especially after port wine has stood in them for some time. The best method is to wash them out with a little pearlash and warm water, adding a spoonful or two of fresh-slacked lime, if necessary. A few small cinders or pieces of raw potato may be used to facilitate the action of the fluid against the side of the glass. A little strong oil of vitriol will also rapidly clean glass bottles.

DELAWARE WINE: a class of domestic wines, red and white, sweet and dry, made principally from Delaware grapes.

DELICATESSEN. The delicatessen stores now so numerous in all our large cities started with one place in Grand Street, New York, opened about 1868. Their stocks embrace a wide variety of food items—ready-cooked meats, cheeses, fine canned goods —such as sardines, mushrooms, caviar, etc.—packet teas, olive oil, etc.—in short, all the most profitable articles of the grocer's stock.

DEMERARA SUGAR: a name given to the finest flavored of "raw sugars"—sugar before the refining process. The term was formerly restricted to that from the Demerara section of British Guiana but is now applied also to similar sugar from the West Indies. It is usually of a light straw color and large crystallization.

DEMIJOHN: a very large-bodied bottle with a small neck, generally protected by wickerwork covering.

DENDANG: a local name for the sun-dried meat of the East Indies.

DERMESTES: commonly called the *Bacon Beetle.* The larva of this insect is very destructive to bacon and other dried meats and often to cheese. It is a worm about $\frac{3}{8}$-inch in length, tapering towards the tail, dark-brown above, white beneath, with long hairs and two horny hooks on the end of its body.

DESICCATED MILK. Evaporated milk finely powdered.

DESICCATED or DRIED SOUPS. There are two main classes of desiccated or dried soups, put up for army, camp and similar purposes—those entirely of meat, and those entirely or principally of vegetables. The former should consist of meat extract obtained by extracting and then condensing the juices of lean meat at a low temperature, the completed product appearing in tablet form or in tubes of paraffin wax, etc. The vegetable soups consist of several varieties of dried vegetables chopped up and mixed with dried flavoring herbs, etc., with sometimes the addition of a certain quantity of gelatine or meat basis. For commissary and export purposes, cubes of compressed dry vegetables are enclosed in jackets of gelatinous soup, both jacket and contents being dissolved in the hot water to be used in making the soup.

All dried articles of this kind should be carefully guarded from moisture.

DEWBERRY: an early variety of Blackberry (which see).

DEXTRIN or *British Gum*: a substance obtained by roasting starch. Its principal use is in the textile industries, as gum for postage stamps, in mucilage manufacture, etc., but it is also sometimes employed as a glaze for certain candies. It was discovered by the accidental overheating of starch and its process of manufacture was for a long time kept secret. Its name arises from the fact that under polarized light it turns the plane to the right or "dexter."

DEXTROSE. See article under heading of GLUCOSE.

DIAMOND BACK: the most famous variety of TERRAPIN (which see).

DIASTASE: a ferment found in grains and other seeds during germination (see MALT). It is also present in human and animal saliva.

DIGBY CHICKS: smoked herrings from Digby, Nova Scotia.

DIGESTIBILITY OF FOODS. See FOOD VALUES.

DILL: a herb of the parsley family, grown chiefly for its aromatic pungent seeds, which are employed in the manufacture of sauces, pickles, etc. See CUCUMBER.

Dill

DISTILLATION: is, in its fundamental features, the vaporizing of a liquid by heat in one vessel and then conducting the vapor or steam into another cool vessel, where it is condensed into a liquid. The value of the process is found in the fact that very few liquids become vapor at the same temperature. Ethyl alcohol will vaporize at 173° Fahr., and water at 212°—so that each can be readily separated from the other or from other components.

Distillation in its simplest form, may be explained by remarking that if one places a kettle of wine, for example, on a stove, the steam which comes out of the spout *prior* to the water-boiling point, 212° Fahr., is principally alcoholic vapor, which, if passed into another vessel and held until it condenses into a liquid, will be a crude brandy. A simple distillation will not produce a complete separation—the alcoholic vapor passed out contains a certain percentage of water—but the process can be repeated until nearly all water is eliminated. A complete separation can only be secured by placing the liquid, after distillation to the highest possible percentage, in suspended skin bags. The water, being heavier than the alcohol, settles to the bottom and gradually drips through the bag.

The principal use of the process of distillation is for the manufacture of commercial alcohol (see ALCOHOL) and liquors such as brandy, whisky, rum, etc., and to add special flavors and properties to alcoholic liquors, as in the manufacture of perfumes, liqueurs, etc., but it is also employed to separate light and heavy oils, in the manufacture of certain products from coal tar, to purify drinking water, to separate volatile from non-volatile substances either in watery or alcoholic solutions or mixtures, etc. Another familiar example is the changing of sea water into fresh water by distillation —the fresh water passes over as steam, leaving the salt behind.

In the manufacture of brandy, rum, whisky, etc., distillation is preceded by other processes which produce a fermented liquid consisting of alcohol, water and solids, it being the duty of distillation to separate the alcohol and water from the solids and then to eliminate a part of the water and certain other volatile substances. Brandy is made from wine (the fermented juice of grapes); rum from fermented molasses and other residue of sugar manufacture; whisky from a fermented grain mixture (see article on WHISKY).

The fermented liquid is placed in a "still." The old-fashioned pot-still consists of a large round pot with a short copper "chimney" for the vapor, with a bend at the top and a horizontal continuation in the shape of an elongated neck or spout. The still is heated to 173° Fahr. and over, by direct fire beneath in a brick "oven" surrounding

the "pot," and the alcohol in the ferment changes into vapor or steam and passes up and along the neck. This neck connects with a long tapering copper pipe, called the "worm," coiled in a tank of running water, which cools and condenses the vapor into a liquid and runs it into the receiving vessel. The process is continued until practically all of the alcohol contents of the liquor have been extracted. This first product is again distilled and the result is "whisky," "brandy," etc., according to the character of the fermented liquid employed and the method of distillation.

In a majority of present day establishments, large modern stills, the contents heated by steam coils, have succeeded the old-fashioned pot still, but the principle employed is identical.

The still with a short "chimney" leading into the "neck"—in some cases it is only the turn of the neck itself—is employed where it is desired to carry over as much flavor or perfume with the alcohol as possible.

When for other purposes very strong and tasteless spirits are desired, "patent" or high chimney stills are employed, as the flavor-oils, etc., being heavier than the alcoholic vapor, fall away in its passage upwards. In addition, three and sometimes four re-distillations are employed to further abstract the water, etc.

Distillation in its leading principles and cruder forms is a process easy of accomplishment, but much care, experience and judgment are required to produce spirits of high grade and quality.

Dry Distillation: is a separation of one or more components from a solid body by the action of heat without the addition of liquid

In *Destructive Distillation*, a term which is synonymous with Dry Distillation in the majority of its uses, the substance is placed in ovens or "retorts" of various shapes and compositions, of metal, clay, etc., which are subjected to sufficiently great heat to decompose their contents. The Destructive Distillation of bituminous coal, for example, gives *gas* for illumination, power, etc.; *coal tar*, a thick liquid substance, now of great commercial value (see article on Coal Tar) and *coke*, the dry residue, generally utilized as fuel for blast-furnaces.

DISTILLED WATER. See sub-head in general article on Water.

DRIED BEEF, Smoked Beef, Chipped Beef. The thick flank is the part generally used for Dried Meat. It is divided lengthwise, set for about ten to fourteen days in a pickle of salt, sugar (or molasses) and a little saltpetre, then hung up and smoked like ham. Large quantities are sold in thin slices, put up in tins or glasses, in that condition being generally known as "Chipped beef." A popular method of service is to blanch, drain and serve with Cream Sauce.

DRIED AND EVAPORATED FRUIT. The great industry of drying and evaporating has made a diet of domestic fruit possible the year round irrespective of climate and season. It is also possible to sell the product at prices within the reach of all classes of people, because of the cheapness of the process and the lower cost of transportation per pound of actual food, as a result of the elimination of the bulk of the water which forms so large a percentage of both fresh and canned fruits.

The comparative merits of the open-air "*drying*" and the indoor "*evaporating*" processes hinge entirely upon the matter of climate. In California, open-air drying

is almost universally employed, as the sections of the state where fruit is dried are practically free from rain and excessive moisture during the drying season. In nearly every other part of the United States, the evaporating process has entirely superseded open-air drying for commercial purposes and has resulted in fruit that keeps better and consequently commands a higher price than sun-dried fruit from the same localities.

In *drying* peaches, apricots and similar fruits they are first cleaned and cut, then placed cup-side up on wooden trays about three by seven feet in size and given a preliminary sulphur bath to sterilize them, before the trays are placed in the sun to dry. In good weather, five or six days are sufficient for thorough curing. The fruit is finally graded and packed in boxes and bags of various sizes.

Evaporation. The history of the evaporating process begins about 1868. Two years later Charles Alden patented a tower form, known as the Alden Process, which temporarily achieved great popularity. Since that time many machines have entered the market, and it is said that in Wayne County, N. Y., alone, more than 2,000 small evaporators are used on the farms. The system most in favor now among the larger packers consists of a slat floor with a furnace underneath, the fruit being spread thickly on the floor and dried by the heat rising through it. The newest method is by means of

DRYING APRICOTS IN CALIFORNIA

steam pipes running back and forth through the chamber of the evaporator. The advocates of this process claim that the heat is more evenly distributed and the temperature more uniform, avoiding all danger of scorching the fruit.

In order to secure the best results of evaporation it is necessary to run the temperature as high as possible without injury to the fruit and to keep the air in rapid circulation throughout the chamber. It is under these conditions that the slight chemical changes in perfectly evaporated fruit take place—the albumen, instead of being slowly dried, is coagulated and greatly assists in the preservation of the fruit with the richness and flavor it possessed in its natural state. After the trays are removed from the evaporator, the fruit is put into bins where it is stirred occasionally and allowed to remain until it has passed through the sweating process. Next comes the grading, by appearance, quality, etc.

Apples are generally peeled, cored and sliced by special machines before being passed to the evaporator. *Pears* and *peaches* are usually cut in halves and evaporated with or without being peeled.

The cores and skins are evaporated separately, but in the same way as the fruit. When properly cured, they possess commercial value in home and foreign markets for the manufacture of jellies and vinegar.

Standards, etc. Much trouble formerly arose from the lack of a standard of dryness in evaporated fruit. A bushel of green apples, for example, weighs about 50 lbs. and should make 7 or 8 lbs. of white stock and 4 lbs. of waste—five-sixths of the fruit being water. Apples when thoroughly dried still contain about 25% of water, but many lots were formerly sent to market containing 30 to 35%—being only half dried, they molded, discolored and fermented or soured. The present food law fixes 27½% as the limit, which has practically eliminated that particular trouble—to the great advantage of the industry as a whole.

During the Summer months and in warm climates generally, dried fruit is best kept in cold storage. If in good condition when put in, it will maintain its quality, flavor, etc., for a long time. If held in stores where it is exposed to dampness, it is liable to sour or become moldy.

Preparation for the Table. In preparing dried or evaporated fruits such as apples and peaches for the table, the best results are attained by cooking slowly for several hours at a temperature just below the boiling point, enough water being added at first to cover the fruit. Every package of dried fruit should bear printed directions for making pies and for other forms of cooking, as very few housewives know how to use it to the best advantage.

See also articles on APPLES (dried), DATES, FIGS, PRUNES, RAISINS, etc.

DRIED HERBS, VEGETABLES, etc. See HERBS, BEANS, COMPRESSED VEGETABLES. JULIENNE, LENTILS, PEAS, POTATO CHIPS, etc.

DRUMFISH: a Southern sea fish, resembling the black grouper, which averages in weight from one to ten pounds.

DUCKS. There are twelve "standard" varieties of domestic ducks raised in this country, but the most popular and abundant is the *White Pekin,* first imported from China about 1872. It is a large bird, a pair often reaching a total weight of twenty pounds, of delicate flesh and an excellent layer. It may be recognized by the peculiar

turned-up effect of its tail and its erect carriage—its legs are set so far back that it walks in an upright position. In a good specimen, the back is long and broad, and the breast round, full and very prominent. The plumage is downy and of creamy or snow-white throughout, and the bill yellow. The "standard" weight of the adult drake is eight pounds and the adult duck seven pounds; that of the young drake and duck, each one pound lighter. The average market weight is about five pounds each.

White Pekin Ducks

Next to the Pekin in popularity is the *White Aylesbury,* a famous English variety, similar in general appearance, excepting the special Pekin effects of carriage and tail, and averaging a little heavier in weight.

Other well-known types are the *Colored Rouen*—the name probably from Rouen, a city of Normandy, which is famous for its poultry—with the heavy domestic duck shape but with plumage closely resembling that of a wild Mallard duck; the *Black Cayuga,* a purely American variety, and the Colored and White *Muscovy.*

Ducks are sent to market both dry-picked and scalded, opinions being divided as to the better method.

Ducklings are generally in the market from May to November. The older birds then take their place from December to April.

The general tests for age and conditions given under the head of POULTRY apply in buying ducks. An additional test for age is found in the windpipe, which can be easily squeezed and moved in a young duck, but which becomes fixed and stiff in older birds.

Wild Ducks. The best known varieties of wild ducks are the Canvasback, Mallard, Redhead, Ruddy, Green-winged Teal, Blue-winged Teal, Pintail, Black, Grey, Widgeon and Wood. See *Color Page* of Canvasback, Mallard and Ruddy, opposite page 218.

The epicurean value of the cooked wild duck depends principally upon its diet during life. The delicious flavor of the Canvasback is attributable to its feeding principally upon the eel grass called "Wild celery," which grows plentifully on the Chesapeake shores and along the Great Lakes and western rivers. The proof of this statement is in the fact that the Canvasback when found in parts where the wild celery does not grow, offers no choicer flesh than the more ordinary members of the wild duck family.

The delicacy of the flesh of the other varieties named is due to their feeding principally on grain, aquatic plants, small mollusks, etc., avoiding the fish diet which gives the rank taste to the Merganser duck.

The last named, the Merganser—also variously known as the Sheldrake or Saw Bill—should always be avoided. Its adherence to a fish diet makes its flesh rank and unpleasant. It may be known by its hooked and saw-toothed bill.

The descriptive items of plumage given in the following paragraphs refer, be it understood, only to especially characteristic markings—a fully detailed description of the elaborate costumes of the wild ducks of American habitat would require a good-sized volume exclusively devoted to the subject. Furthermore, in some varieties the plumage varies considerably with the season.

The *Canvasback* takes its name from the plumage of its back—of ashy white, marked with zigzag black lines. It is further distinguished by a very short bill, and

a rather long narrow head sloping back from the bill. The crown of the head is a rich chestnut color, with parts nearly black. The average market size is from five to six pounds a pair, sometimes going as high as eight pounds. The female is somewhat smaller than the male.

The *Mallard* is the ancestor of a majority of our domestic ducks of colored plumage. The head and neck of the male are a glossy green and the back brown and grey, shading to black, with blue and white markings on the wings. The female is principally dark brown and buff. The average market weight is five pounds a pair, though it often goes higher.

The *Red-Head* resembles the Canvasback in general appearance, but it averages a little smaller and it also differs from it in several details—the black and white lines on the back are nearly equal in width, giving a silvery appearance; the head is well rounded instead of sloping back from the bill, and there is no black in its coppery chestnut crown. The upper part of the female is a greyish, mottled-looking brown.

The *Ruddy* is again smaller than the Red-Head. The crown of the head and neck are glossy black and the sides of the head are dull white. The upper part of the body is encircled by a band of red brown and the lower part of the back is white with brown bars. It is also distinguished by the stiffness of its tail quills. The upper part of the female is a grey-brown.

The *Green-Winged Teal* is one of the smallest of the wild duck family. The head and neck are chestnut color with green on the sides of the head; the upper back and sides are marked with waving black and white lines, and the lower parts are dark grey-brown. The wings are distinguished by the green patches which give the bird its name. The upper part of the female is mottled brown, with head and neck streaked with light reddish-brown.

The *Blue-Winged Teal* is a little larger than the Green-Winged. The head and neck are dark grey with a white crescent between the eyes, and the back and wings reddish-brown with purple tints. The female is brown and buff in colors.

The *Pintail* is so named because of its long greenish-black tail feathers. The head and throat are of greenish-brown, the neck is especially long and slender, the back is marked with waving black lines and the breast and under parts are white. The upper part of the female is mottled grey, yellow and brown. The tail is shorter than that of the male but the central feathers are sharp-pointed.

The *Black Duck* is about the same size as the female Mallard. The head is a rich brown and the upper part of the body dark, rather dull brown.

The *Grey Duck* has a head streaked with black or brown, the upper part of the back a brownish-grey and the lower part changing to black. The female is smaller and darker.

The *Widgeon* has a back of grey-brown mixed with black and a head white or buff on top and green on the sides. The female is smaller and darker.

The *Wood Duck* is a bird of such elaborate plumage that it would be difficult to name any one or two points as particularly distinguishing it. It is so beautiful that many sportsmen advocate its complete and entire protection as a bird of plumage.

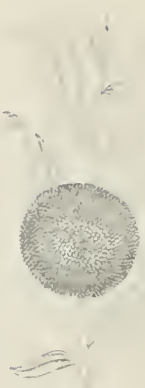
DULCIN: (1) a highly sweet coal-tar product of the same character as SACCHARIN (which see). (2) a crystalline sugar compound, resembling that from manna, obtained from several plants.

Canvas Back Ruddy Mallard

WILD DUCKS

DULSE: an edible red seaweed found on the North Atlantic coast, being especially abundant in New England. It is rough dried in the sun and eaten dry as a relish, cooked with butter to be eaten with fish, etc., or boiled in milk to be served as a vegetable.

DUNFISH. See sub-head in article on Cod.



Durian

DURIAN: one of the most important of Malay fruits. It is greenish in color, inclined to oval in shape, about the size of a large cocoanut and the thick skin marked with spicules. Its odor is unpleasant to the novitiate, but the pulpy flesh has a pleasant taste, and the seeds also make good eating when roasted.

"DUTCH STANDARD 16": is a sugar standard used in the custom-house, in conjunction with the polariscope, to determine the quality of sugar imported and the duty payable. Sugar below it in grade is subject to the Raw Sugar duty; that above it, the higher rate for Refined Sugar. The "16" corresponds to one of a set of sixteen glass bottles or tubes of sugar of various grades of purity and color, originally used by the Dutch government for classing sugars, and generally so employed by other nations also until the introduction of the Polariscope (which see).

DYES, Aniline: are put up in convenient packages for dyeing a great variety of articles, from Easter Eggs to clothing and household furnishings. They are based on Aniline, a coal-tar product discovered in 1856.

A majority of aniline colors are soluble in water, some in alcohol and some in oil. A few of the water-soluble can be made into oil-soluble. If alcohol or oil soluble colors are desired, it should be designated when ordering.

Certain of these dyes are now largely employed as very effective and harmless colors for confectionery, etc. (see Colors and Coloring Matters).

EDAM: one of the best known of Dutch cheeses. See Cheese.

EELS: are found in all countries and climates and in both fresh and salt water, and are in season the year around. The most general classification is into River or "silver," and Sea or "conger." The three best known types are "snig," "sharp-nosed" and "broad-nosed." All kinds are very much alike in appearance, and have the same black tough skin. The principal difference is in size, the sea or conger eels sometimes reaching enormous proportions.

EGGS: one of the most generally valuable of food products, because of the many ways in which they are utilized.

When lightly cooked, eggs are easily digested and are well suited to sick or delicate people. Boiled hard or fried, they are more difficult of assimilation. A fresh egg is said to equal in nourishment one and a half ounces of meat and one ounce of bread.

In ordinary parlance, hen's eggs are always understood when "eggs" are mentioned, but the omnivorous human diet includes also those of various other creatures. There is, for example, a limited consumption of the eggs of ducks, geese and guinea-fowls, and in some sections of gulls and other wild birds, those of the plover being

considered a great delicacy. The eggs of turkeys and, in California, of ostriches are also occasionally eaten, but they are ordinarily too valuable for hatching to use them for the table. Again, terrapin eggs are served with the meat, the eggs of the sturgeon as caviar, those of the shad as "shad roe," etc. These, however, are topics foreign to the article following, which refers to the eggs of domestic hens.

There is a great similarity in the proportion of shell, white and yolk in fowls' eggs. Roughly speaking, the shell makes up one-tenth, the yolk three-tenths, and the white about six-tenths. The white is nearly seven-eighths water. The solids of the white are practically all nitrogenous matters, principally albumen. The yolk is about one-half water, one-third fat and the remainder principally nitrogenous matter.

The egg meat varies though somewhat in different seasons and conditions. Those received in the spring are generally firmer and fuller than those gathered later in the summer and the thickness of the shells varies in different sections—those of Ohio and Indiana, for example, being generally harder and thicker than those of Michigan and New York—owing, perhaps, to the difference in the gravel of the soil.

All eggs are examined by "candling." The process, in a cold storage house, is performed in a dark room where electric light spots glow inside dark green metal shades, each with a single open space or hole. The egg is placed against this hole and an electric ray penetrates its very being.

For months during the egg gathering season, a force of men stand at these light holes, candling eggs with marvelous rapidity and grading them in boxes which an elevator is carrying ceaselessly to cold storage rooms.

New-laid eggs appear semi-transparent, of a uniform pale pinkish tint, with only a very small air-chamber—a separation of the skin from the shell, filled with air.

If incubation has begun, a dark spot is visible, increasing in size in proportion to the length of incubation, and the entire contents appear cloudy, becoming worse as the egg grows older. Other similar spots are caused by fungus growth. A rotten egg is dark-colored, almost opaque. The air-chamber also becomes larger with age.

There are various degrees of badness classified in the trade by different colors. Those absolutely unfit for food are used in the tanning industry.

A great many eggs are not "full"—the fact does not mean that the egg is not a good product, but it must not be rated as either a "fancy fresh" or a "fresh-gathered extra." Again there are "checks." A "check" is an egg that has met with an accident that has cracked the shell so slightly that the crack is ordinarily invisible—the egg is not necessarily bad, but it must not be sold at the same price as a perfect one.

A writer in the *New England Grocer* says of the egg trade: "The original owners of the eggs know as little about the history of their distribution as do the men and women who finally devour them.

"To these first and last persons who handle the product, the eggs are either good or bad, and there's an end on't! But to the man who handles them between the farm and the breakfast table there are Fancy Fresh, Fresh Gathered, Storage Packed, Storage, Limed, Known Marks, Extras, Firsts, Seconds, Dirties, Checks, etc. The distinctions become very necessary when one realizes that practically the whole enormous egg business is conducted by telegraph and that the dealer who purchases a carload of eggs has no opportunity to examine them until they arrive."

With the exception of those which, because of their proximity to a large city, can profitably be shipped by express, eggs always travel in refrigerator cars—winter as well as summer, for the heavy construction of the perambulating ice-chests is equally serv-

iceable for protection against cold and heat. One carload contains four hundred cases, or one hundred and forty-four thousand eggs.

On large poultry farms, eggs are produced and handled very much as the product of any other factory—the poultry man knows his cost of production by dozen or case, the operative cost, etc., etc., just as does his contemporary in any other line of business—but the greater part of the country's egg supply is still represented by accumulations from thousands of general farmers scattered all over the country.

"The history of one of these farm eggs reads like 'a gathering of the clans.' The hen that laid it may be the property of a small farmer in a Western state, located fifty or a hundred miles from the nearest good-sized town. The egg is one of a dozen that the farmer takes to the nearest village store and either sells for a small sum of money or barters for sugar, calico, tobacco or some other commodity that he needs more than he needs eggs.

"Other farmers in the neighborhood are doing the same and the store is thus the recruiting station for a goodly company of eggs that must necessarily find a market somewhere else. These eggs are sent to a larger center, where they pass into the control of a large, or small, shipper who mobilizes them, to continue the figure, no longer by companies but by battalions, regiments and armies—i. e., carloads.

"When the shipper has a carload of eggs ready for the eastern market, he telegraphs the fact to an eastern dealer. A certain amount of dickering goes on over the wire, and the eggs are finally sent East. The eggs are not though for immediate consumption, hence the necessity for the refrigerator car and the storage warehouse to retain the condition in which they were purchased.

"Comparatively few eggs are found to be bad, and all shipments are now sold 'at mark,' a technical way of saying that a case of eggs at wholesale is supposed to be within a small percentage of the requirements or standard of each grade, and there is no rebate for damaged eggs. Formerly there was a rebate during a part of the year that was called the 'loss off' season, because a certain percentage of the eggs were not expected to come up to the standard of the various grades.

"There are very few disputes between shippers and dealers that are not settled peaceably between the persons directly concerned, but occasionally they form the basis of expert examination by either the Chamber of Commerce or Fruit and Produce Exchange inspectors, sometimes indeed getting as far as the Arbitration Committee."

There is a wide difference in the weight of eggs—although all cooking receipts say "take two eggs," or whatever number seems suitable, without any allowance for variations in size!

The breeds that lay the largest eggs, averaging seven to a pound, are the Black Spanish, Light Brahma, Houdan, La Flèche, and Crève Cœur. Eggs of medium size and weight, averaging eight or nine to a pound, are laid by the Leghorn, Cochin, Minorca, Red Cap, Poland, Dorking and Games. Hamburg eggs average about ten to the pound. There is thus a difference of three eggs in one pound weight. The average weight of twenty eggs laid by different breeds is 2⅛ pounds.

The most popular types of fowls for egg-producing are Leghorns, Minorcas, Black Spanish, Hamburgs and Red Caps, their average total output being larger than from other varieties.

The size of the egg varies also with the care and treatment of the fowls. Those from the South formerly averaged small for all breeds, but a marked improvement has been noticeable during recent years.

A bulletin of the North Carolina station of the U. S. Department of Agriculture gives the following figures as the results of tests made to ascertain the comparative values of eggs from a number of Southern-bred standard fowls, both as pullets and mature hens.

The first named type, *Single Comb Brown Leghorn Pullets*, is taken as the starting point—the eggs from the others following being found of higher food value to the extent of the percentage named. For example, if eggs from the Single Comb Brown Leghorn *Pullets* were at that time worth 30 cents a dozen, those from Single Comb Brown Leghorn *Hens* were worth 20% more, or 36 cents a dozen, and those from the *Light Brahma Hens*, 60% more, were worth 48 cents a dozen.

These averages are subject to variations as a result of differences in feeding and locality.

	Per Cent. Greater Value		Per Cent. Greater Value
Single Comb Brown Leghorn Pullets	* * *	Buff Cochin Hens	31.8
Single Comb Brown Leghorn Hens	20.7	Black Langshan Pullets	31.8
Silver-Laced Wyandotte Pullets	23.	Barred Plymouth Rock Pullets	34.8
Light Brahma Pullets	30.	Barred Plymouth Rock Hens	40.
Late-hatched Barred Plymouth Rock Hens	30.4	Buff Cochin and Black Langshan Pullets	47.2
White Wyandotte Hens	30.4	Black Minorca Pullets	47.2
White Wyandotte Pullets	30.4	Black Langshan Hens	51.4
White Plymouth Rock Pullets	31.1	Light Brahma Hens	60.

By far the greater part of the eggs held over for future use are kept in condition in cold storage, but when this is impossible they may be preserved by immersion in a solution of water-glass (*Sodium* and *Potassium Silicate*). Experiments, both in a practical way and in laboratories, have demonstrated that a 10% solution of water-glass will preserve them so effectively that even at the end of three or four months they will appear fresh. In most packed eggs, the yolk soon settles to one side, and the egg is then inferior in quality, but in those preserved for three and a half months in water-glass, the yolk retained its normal position. One gallon of the solution is sufficient for fifty dozen eggs if they are properly packed.

Eggs varnished with vaseline or preserved in limewater also keep well but the former is too laborious and the latter sometimes communicates a disagreeable odor and taste.

Eggs in cold storage are held at temperature ranging between a little below and a little above the freezing point. They are seldom kept longer than six months, but under good conditions they will retain a fairly fresh flavor for a year or more, losing however in weight from the evaporation of the whites.

Eggs enter into commerce in many forms in addition to those in the shell—including whole eggs removed from the shell and stored in cans at a little below the freezing point, powdered yolks, crystallized whites, desiccated eggs, etc.

Large quantities of egg substitute are consumed in mining camps and desert regions. Some of these consist chiefly of starch, others are of animal origin. They are of varying degrees of value.

Fresh eggs should be kept in a dry, cool place free from any strong or objectionable odor. If packed in salt or sawdust they will remain fresh longer than if exposed to the air.

Boiling Eggs. There are other ways of boiling eggs than by their immersion for a certain number of minutes in boiling water. A more pleasing result can be obtained,

EGG PLANT

(1) by placing them in cold water and gradually bringing it to a boil, removing them when the boiling point has been reached, or (2) by placing them in boiling water and then turning the gas flame out, or setting the pot well back on the range, removing the eggs in from seven to ten minutes. By either procedure, the white will be tender and jelly-like instead of the somewhat tough and leathery consistence of the ordinary boiled egg.

EGGPLANT (*see Color Page*): a fruit-vegetable which is growing in popularity in this country. In many parts of the tropics it is a staple and important article of diet. There are several varieties of the plant, yielding fruit of varying qualities and of different colors, shapes and sizes. The best known type is somewhat egg-shaped, three to five inches in diameter and from light purple to black in color. It is generally fried in slices, but is even more palatable when cut in one-inch cubes. It is also excellent stewed.

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Gathering Eggplants

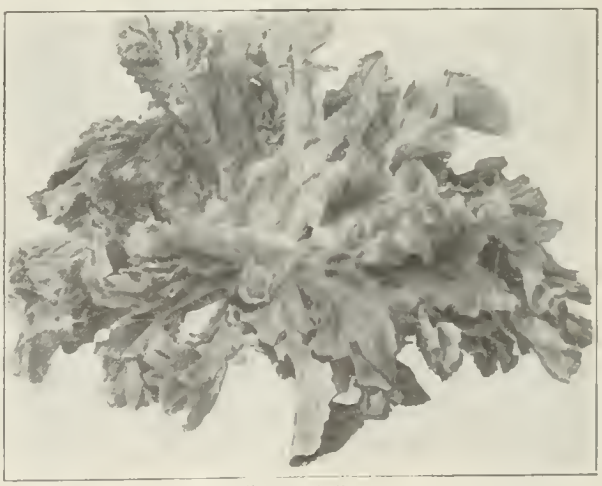
ELDER: a bush bearing flat clusters of berries of a deep purple color. Elderberry Wine is prized for its medicinal properties, and is also employed in the manufacture of imitation Port.

ELEME: a Turkish word for "selected," as *Eleme figs* (see FIGS).

EMERY: an impure hard black or greyish-black granular corundum, employed in pulverized form for polishing and grinding metals, etc. *Emery Cloth* or *Paper* is coated with a mixture of emery powder and glue. The colored varieties of corundum include the sapphire and several other precious stones.

ENDIVE, *Cichorium Endivia*: a salad plant of the Chicory family and closely allied to the dandelion, originally brought from China to Europe in the sixteenth century. The two principal types under cultivation are those known to gardeners as "Curly Endive," with narrow, feathery leaves, and "Broad-leafed" or "Batavian" Endive, with leaves large and rather broad, generally twisted and waved and with thick white midribs.

In Eastern markets, Curly Endive and other small leafed varieties are generally known as *Chicory* (which see) because of their resemblance to Common Chicory, and Broad-leafed Endive by the French title of *Escarole*. The title *Endive* is reserved for the winter-grown heads of the Witloof or Brussels Chicory, a sub-variety of the



"Escarole"

Magdeburg Large-Rooted Chicory, which consist of a number of thick creamy-white leaves from four to six inches in length and one to two inches in width, pressed tightly together and generally tapering to a point.

Curly Endive, or *Chicory,* is grown both for summer and winter markets, generally blanched more or less in cultivation.

Broad-leafed Endive, or *Escarole,* is more highly considered as a winter than a summer salad but it is raised for both seasons, its natural tendency to blanched centers being accentuated by gardeners.

Witloof Chicory, or *Endive,* is a winter salad exclusively and is obtained by cutting off the summer tops of the plant, setting the roots in sand in cellars, etc., and forcing the desired new growth. It is eaten both raw and cooked. For salad purposes it should be very crisp as otherwise it is liable to be too bitter. The greater part of the Eastern supply is imported from Europe.

"Endive"

ENTREE, ENTREMET. See list of *Culinary Terms* in APPENDIX.

ERBSWURST: an important army ration, originated in Germany. It consists of a mixture of pea-pulp, bacon and seasoning.

ESCAPERNONG: an Indian name from which is derived the title of the best known Southern grape, the SCUPPERNONG (which see).

ESCAROLE. See article on ENDIVE.

ESPAGNOLE: one of the principal fundamental sauces in cookery and used as a basis for many brown sauces. It contains the essence of a variety of articles—ham, veal and beef, several vegetables, a number of herbs and spices, fowls (old birds are taken for the purpose) and wine. The proper cooking, preparation, etc., require several hours.

ESSENTIAL OILS, or **Volatile Oils.** See general article on OILS.

EVAPORATED FRUITS, Etc. See DRIED AND EVAPORATED FRUITS.

EXTRACTS: as familiar to the average retailer and consumer, consist of a certain percentage of true extract or essence, or its chemical imitation, in an alcoholic solution. The aromatic principles of a great many spices, nuts, herbs, fruits, etc., and some flowers, are thus marketed, among the best known of true extracts being almond,

cinnamon, cloves, ginger, lemon, nutmeg, orange, peppermint, pistachio, rose, spearmint, vanilla, violet and wintergreen.

A majority of natural essences are obtained by extracting the essential oil from the blossoms, fruit, roots, etc., or the whole plants, by expression, absorption, distillation or maceration. The first method, that of *Expression*, can only be employed when the oil is very plentiful and easily obtained, as in lemon peel (see LEMON OIL). The second, *Absorption*, is generally accomplished by steeping in alcohol, as vanilla beans (see VANILLA EXTRACT). The third, *Distillation* (which see) is sometimes comparatively easy, as when following *Maceration* in making peppermint extract, etc. (see MINT), but in many cases it requires expert chemical knowledge and the erection of costly stills.

The distinctive flavors of nearly all fruits, in the popular acceptance of the word, are very desirable adjuncts to many food preparations, but unfortunately there are only a few from which it is practicable to obtain a concentrated flavor extract of the necessary strength. Among those which lend themselves readily to the manufacture of "pure" extracts the most important are lemons, oranges and vanilla beans.

A majority of other concentrated fruit flavors, as banana, cherry, currant, peach, pineapple, raspberry and strawberry, are produced by chemical combinations of compound ethers, together with special oils, etc , the desired colors being generally obtained by the use of coal-tar dyes. Among the ethers most generally employed are *Acetic* and *Butyric* (which see). The chief factors in the production of artificial banana and pineapple extract, and also important in the manufacture of strawberry extract, are amyl-acetate and amyl-butyrate, Amyl Alcohol being the principal constituent of that part of the alcohol obtained by the distillation of grain and potato starch, etc., which is popularly known in this country as "fusel oil" and in Europe generally by the title of "potato oil."

Artificial extracts do not as a rule possess the delicacy of the fruit flavor, but they get sufficiently close to it to be of real service and convenience when true essences are unobtainable.

EXTRACT OF MEAT. See special article on MEAT EXTRACT.

FALERNIAN WINE. "Falernian Wine" is a familiar expression—the reference is to the famous wines of ancient Rome produced in the district of Falernus, near the Massican Hills.

FARINA. The word Farina indicates properly the flour of any grain, starch, root, etc., but as used generally in this country it signifies either a coarse "flour" from corn (maize), used principally for making puddings and desserts, or a wheat "cereal" for breakfast purposes, etc.

Wheat "farina" corresponds to the product known in Europe as Semolina or Semola. It consists of very fine wheat "middlings"—the small particles of wheat left in the bolting machine after the flour has been passed through its meshes. The best is that obtained in the milling of the very hard-grained wheats.

Semolina is perhaps most popular in France where it is used in a great many ways, including a favorite variety of fine wheat bread known as *pain de gruau*, etc. In Italy it is used with other grains and meal in making POLENTA (which see). It is the original macaroni "flour."

FEME SOLE TRADER: is the legal term applied to a woman who secures a license to carry on business in her own name without liability for the debts of her husband and without rendering her husband liable for her own.

FENNEL. *Common Garden* or *Sweet Fennel* is a plant chiefly cultivated for its leaves which are consumed both fresh—for garnishing, as a salad, etc.—and cooked as a vegetable, in the latter case generally tied in bunches and boiled with fish and certain other foods. It is very popular in Italy, especially in the vicinity of Naples. The seeds are also used for seasoning and in the manufacture of liqueurs.

Florence Fennel is a different variety, grown principally for the bulbous lower parts of the leaf stalks, which are usually eaten boiled. In flavor it somewhat resembles celery but is sweeter.

Florence Fennel

FENUGREEK: is a herb which resembles clover. Its seeds are used as an ingredient of curry powder. Separately, they are strong, bitter and of unpleasant flavor.

FERMENTATION: in its broadest sense, is the chemical change by which organic substances are decomposed and re-combined in new substances or compounds. *Ferments* are of two classes—"organized," or living, as yeast fungi, lactic bacteria, etc., and "unorganized," as diastase, pepsin, etc.

In its most widely used significance, fermentation is the chemical change produced in substances, more or less liquid, containing some sugary solution, by which the latter is converted into a liquid, *alcohol,* and a gas, *carbon-dioxide* (see article on YEAST). Wine and beer fermentation is called *Vinous.* Under favorable conditions of temperature, etc., fermentation continues until the growth of the yeast cells is stopped by the exhaustion of the particular chemical components adapted for their subsistence, or by the formation of other substances in quantities inimical to their growth. As already noted, alcohol is one of the chief results of vinous fermentation, but it is itself adverse to yeast growth, and will stop it entirely, and with it fermentation, if a sufficient quantity is added to the liquid, or formed in it.

Vinous fermentation is followed under certain conditions by *acetous fermentation* —a class of acetic bacteria oxidizing the alcohol and producing vinegar.

The "souring" of milk is *lactic fermentation*—the milk sugar being converted by the action of lactic bacteria into lactic acid. See article on BACTERIA.

Putrefaction of meat, etc., is *Putrefactive Fermentation.*

FETTICUS: one of the many names for CORN SALAD (which see).

FIG: the fruit of the fig tree, of which there are several hundred varieties. It consists of a pulp containing about 60% sugar, enclosed in a thin skin varying in color from nearly white to dark purplish or black.

Figs are best known to the average consumer in their dried condition. Next in point of popularity are those preserved in syrup, brandy, maraschino, etc., and in

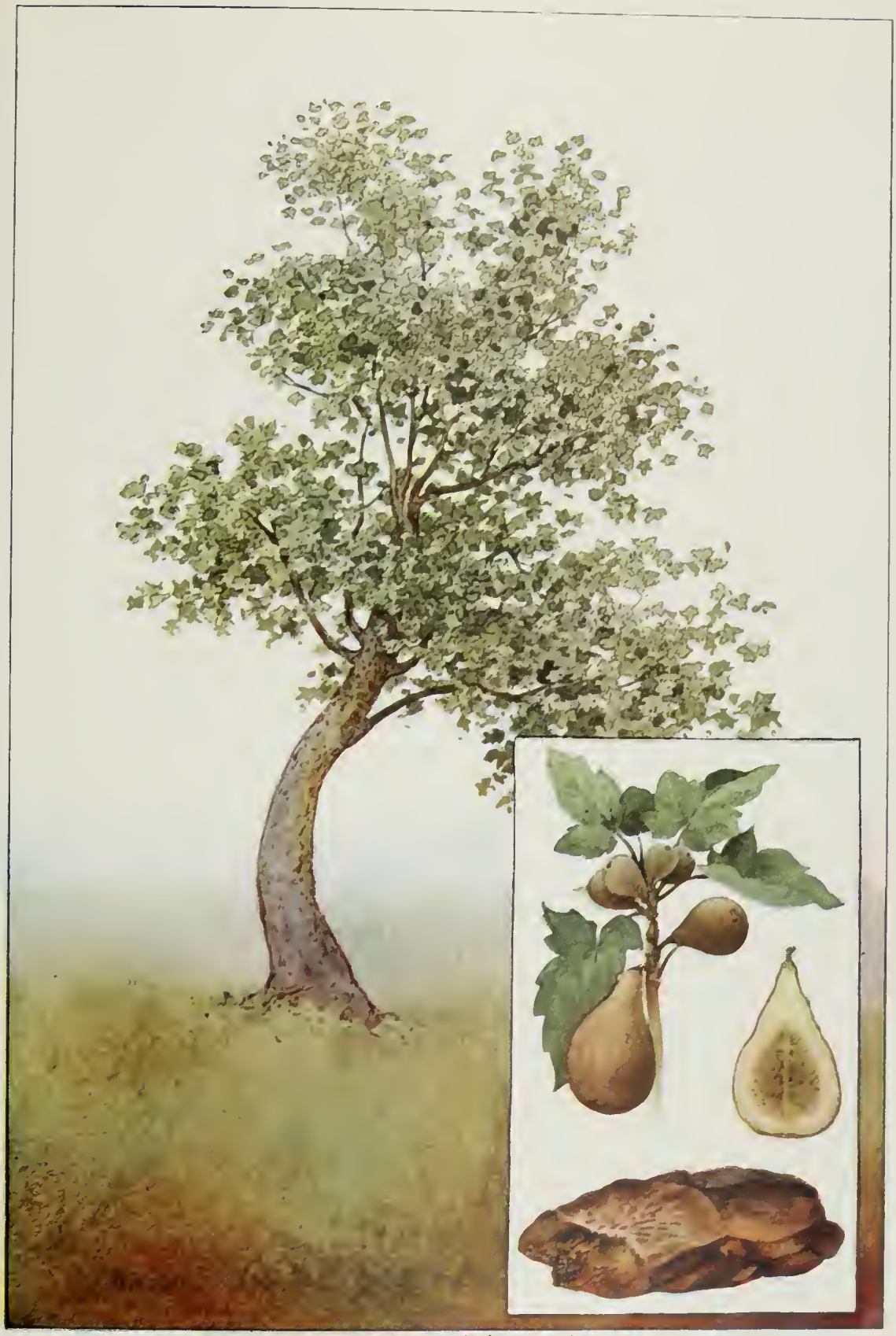


FIG Tree and Fruit (fresh and dried)

"marmalade" form. There is also a fair demand for Stuffed Figs, filled with nut meats mixed with chopped figs or with any of the materials used in the stuffing of dates. The fresh fruit is too perishable an article for handling by any other than "fancy" fruit stores, except in districts with a large Latin population.

Some choice qualities of both the "plain" and "stuffed" are put up in fancy boxes, baskets, jars, etc., but the greater part of the supply, from the very finest "Smyrna Extra Fancy 3-in Layers" to the more ordinary types, come in bulk, chiefly in boxes, but also in drums, bags, etc.

The greater part of the consumption of dried figs is of the imported variety, chiefly from Asia Minor, of which Smyrna is the principal seaport—hence the name "Smyrna Figs." Greece and Italy supply a minor quantity and there is a constantly increasing production in California and the South.

Dried figs can be kept without deterioration for from eight to twelve weeks if stored in a uniform temperature of about 40° Fahr.

Minor grades are in Europe utilized in large quantities in the manufacture of brandy and, in Germany, as a substitute for coffee.

Imported Figs. The two principal types of "Smyrna Figs"—which set the quality standard for all fig-producing countries—are those classed as *Eleme*, the best known type of "pulled figs," and called also "Layer Figs" because of the style of packing, and *Locoum*. "Eleme" is a Turkish word signifying "selected." "Locoum" figs are those packed in the shape of cubes—Locoum being the Turkish name for a square-shaped sweetmeat. The title also stands for quality, because only thick and meaty figs can be packed in Locoum style.

"*(Smyrna) Naturals*" are the inferior fruits, shipped loose in bags and boxes. The term "natural" is applied because they are not compressed in packing.

In packing Eleme Figs, the fruit is first "pulled" and drawn between the fingers and thumb into a flat disk-like form, and then the back part is split to allow still more spreading. In "pulling," the "eye" part is brought into the center of the disk. The "pulled" figs are then placed in "layers" in boxes and the piling up of the boxes on each other presses the contents. A few bay leaves are generally placed on top of the filled boxes, partly for the flavor and partly to exclude insects.

Eleme or Layer Figs are graded from "choice" to "extra fancy," etc., and by size, 1¾ in. to 3 in., etc.

Locoum Figs—American style (rounded)

Locoum Figs—London style (squared)

PHOTOS BY PADDOCK & POSTER CO.

Layer Figs

PHOTO BY PADDOCK & FOWLER CO.

A Smyrna Fig Packing establishment

For Locoum Figs, the fruit is merely pressed between the fingers to somewhat cubical shape.

The square-shaped Locoum-packing shown in the center box in the illustration at the foot of page 233 is generally known as the "English" or "London" style. It has the advantage that the absence of air-passages is an additional safeguard against the deterioration of the fruit. The round or "American" packing is also frequently known in the trade by the specific title of "Pulled Figs." The English style is usually preferred in New England markets, but elsewhere the American is the best selling type of Locoum figs.

The greater part of the basket and carton output is further generally described as "washed."

Most of the fig trees grown in Asia Minor are of the varieties which require "caprification." They bear only female blossoms, and these are hidden inside the immature fruit. The only method of fertilizing the fruit is by means of the fig wasp, a little insect which is found abundantly in the fruit of the wild fig, known as the "Caprifig." When the wasp emerges from the ripened caprifig in which she has developed to maturity, she seeks an immature caprifig to enter for the purpose of depositing her eggs in it. If a cultivated fig tree is nearby, she may enter its immature fruit by mistake—and as she is covered with the pollen of the caprifig, she unwittingly fertilizes its numerous blossoms by piercing their bases and thus brings the fruit to maturity. Where caprifigs grow in the vicinity of "Smyrna" trees, the wasps will of their own accord fertilize the fruit of the latter with more or less thoroughness, but to insure complete and uniform fertilization of the entire crop, growers take charge of the caprification themselves by attaching caprifigs to reeds and suspending them over the fruiting branches of the cultivated trees.

Grecian Figs are chiefly of varieties similar to the "Smyrna" and require caprification. The fruit is generally of inferior quality. After drying, it is usually strung on reeds, bent into "wheels," of various shapes and containing each from fifty to several hundred, and packed in large cases.

Italian Figs are principally of types which do not need caprification. The drying is frequently by artificial heat and is facilitated by splitting the fruit. A popular style is to insert an almond or piece of citron in the pulp after drying.

Grecian and Italian figs are cut as they ripen, instead of being allowed to fall as in Asia Minor.

PHOTO BY FABBRICA POWER

A "wheel" of Greek figs

California Figs. Fig culture has become an industry of considerable importance in California. The greater part of the crop is dried, generally in the sun, and the variety chiefly grown for that purpose is known as the Adriatic. The best qualities are packed in small cartons with fancy ribbons. Next in importance are Preserved Figs, generally the fruit of the "Magnolia" or Brunswick Fig.

The self-pollinating trees which until recently have been exclusively cultivated in California, do not produce fruit to compare in quality with the fine imported Smyrna product, but during the last few years a considerable number of true Smyrna Fig trees

have been successfully grown there. Owing to the necessity of caprification, it was formerly impossible to fertilize the blossoms of these trees in California, but a number of Caprifig trees have been imported and a few of these are planted in each "Smyrna Fig" orchard, in order to breed the necessary supply of fig wasps, and to afford them a suitable place to sojourn during the winter.

Southern Figs are most familiar to consumers in the form of skinless fig preserves put up in syrup. The skin of the fruit is removed by chemical or mechanical means —during the entire process of preserving, the fig is not touched by human hands after the preparatory processes of sorting and inspecting the fresh fruit. The variety known locally as the "Magnolia," though really of the Brunswick type, is the most widely cultivated in the South. It begins to ripen about the middle of June, continuing until frost.

The last decade has seen thousands of acres of land sold in Texas on the strength of its adaptability for the Magnolia fig crop, and millions of the trees have been planted.

Other figs grown to a considerable extent in the South are, in Texas, the Mission Black, known locally as the "Brunswick" or the "Black California," and, in Louisiana, the Brown Marseilles, known locally as the "Celeste," and the White Marseilles, known locally as the "New French."

FILBERTS or Hazel Nuts (*See Color Page opposite* 414): the fruit of the Hazel bush or tree, growing in clusters, each enveloped in a husk which opens as the nut ripens. *Filberts*, "full-beards," are those with fringed husks extending beyond the nuts; *Hazels*, "hoods," have husks shorter than the nuts. When ripe and deprived of the husks, only an expert can tell the difference, as there are several styles and sizes of each. In this country they are all classed as "filberts."

The two chief varieties of the American nut are the "Common" and "Beaked." The former is the more desirable, its kernel being sweet and pleasing in flavor, but it is too small to be of much commercial value.

The best known imported varieties are the Sicily and Naples, the bulk of the supply coming from Sicily. One Naples type is distinguished by its large oblong shape.

"Barcelona Nuts" are hazel nuts, generally kiln-dried, from Barcelona, Spain.

FILLET or Filet: a market term for the Tenderloin (see BEEF and PORK). Also a culinary term for a strip or band of meat without bone.

FINES HERBES: a French culinary term for a combination of Chervil, Chives, Parsley, etc.

"FINGER ROLLS," *Salt Sticks, Soup Sticks:* Italian bread made in stick form, from twelve to eighteen inches long. The term is also applied to finger-shapes of crusty bread, cut in various sizes and thicknesses, to be eaten with soup.

FININGS and Fining. See matter following title of CLARIFICATION.

FINNAN HADDIE or Findon Haddie: the popular title for smoked haddock—the name being after the fishing village of Findon, Scotland. It is marketed in cans and boxes and is considered best during the winter months. It is an excellent breakfast

dish. The supply was formerly almost entirely imported, but now some of the finest comes from New England.

FIRKIN. See tables of *Weights and Measures* in APPENDIX.

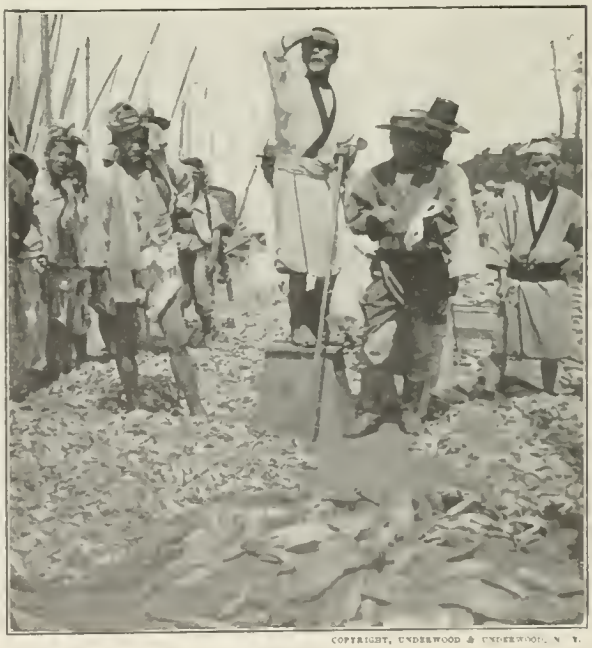
FISH. The annual catch of fish in the United States—sea, lakes and rivers—averages about 2,200,000,000 pounds, most of which is consumed in this country. To obtain the actual quantity of food represented, the figures must be considerably reduced, as the loss of weight in dressing varies from 15% to 50%. To the net total is added the importation of nearly 200,000,000 pounds—fresh, salted, canned, etc. The final figures sound very impressive, but when due allowance is made for the large per capita consumption in certain sections, the result represents only a small per capita consumption by the general public.

Public opinion has been enlightened from time to time by medical and other scientific advocacy of a greater consumption of fish as especially suited to the semi-sedentary habits and lives of a very large percentage of the population, and the result has undoubtedly been an increased appreciation and consumption, but it remains true that, by probably the majority, fish is still looked upon as an "extra" course, an exclusively Friday meat or, in the case of canned goods, as an emergency item. A more general use of fish would tend to decrease the cost of living by relieving the pressure of our ever-increasing numbers on the beef supply.

It is somewhat curious to note the tenacity of certain erroneous impressions concerning fish as a food. It is still commonly believed that it is an especially good brain stimulant because of the phosphorus contained in the flesh. As a matter of fact, fish contains little if any more phosphorus than beef, and even if it did, there is no reason to believe that it would therefore exercise any perceptible influence on the brain. On the other hand, many people undoubtedly eschew fish because they fear ptomaine poisoning—yet, under conditions of proper care and cleanliness, there is no more danger of poisoning from fish than from many other articles of food.

Stripped of all prejudices and traditions, fish is very similar to lean beef in its food composition. The many varieties differ considerably in their proportions of the different elements, but they are all similar in that they supply the human system with a considerable percentage of protein—muscle and flesh building nutrients.

The fish which most closely correspond with the average beef percentage of protein are the halibut, pollack, Maine salmon and sturgeon. Those *exceeding* the beef average in protein include: codsteaks, smoked and salted cod, smoked and salted halibut, smoked and salted herring, mackerel, California salmon and canned sardines.



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A Japanese Fish Market

A third list of those averaging a little below in protein percentage, takes in black bass, sea bass, bluefish, butterfish, cusk, fresh herring, fresh mackerel, yellow perch, pickerel, pompano, redsnapper, shad, trout, weakfish and whitefish.

The average of protein of *all* fish sold, including the lesser varieties, is about two-thirds of that of beef.

It will be noted that in the fourth paragraph fish was described as tallying closely with *lean beef*. The average cut of beef contains a considerable percentage of fat, but this element is found in similar proportions in comparatively few varieties of fish—the majority having more water and less fat.

There are, however, a number of fish which contain as much fat as such meats as young chickens, veal, etc.—among them being butterfish, smoked or salted halibut, smoked or salted herring, mackerel, salmon, canned sardines, trout and turbot—and a few which equal medium-fat beef in fat percentage, chief among them being California salmon, smoked and salted halibut and salted and canned mackerel—the last-named indeed frequently exceeding it in fat. The fat of beef is, though, generally more easily digested than that of fish.

Other fish which contain a fair proportion of fat are alewife, striped bass, fresh-smoked haddock, fresh halibut, fresh herring, mullet, pompano, porgy, shad and whitefish.

Shellfish, being treated under a separate head, have not been included in these comparisons.

The digestibility of fish varies with the different varieties, but as a general rule it may be stated that those with the smaller amount of fat are the more easily digested, and that fresh fish, though less rich in food values, is more easily assimilated than that smoked or dried. Canned uncured fish corresponds very closely in digestibility with the fresh fish of the same variety.

In buying fish, freshness should be insisted on as essential. The flesh should be firm and the skin and eyes bright. Avoid any whose meat is so soft that the pressure of the finger leaves a mark. Cleanliness both in storing and handling are very important.

Most fish are at their best just before spawning time, except shad, which is considered the choicest when spawning; and when very fresh, except halibut, which improves in flavor with a little age. After spawning, fish loses greatly in quality—the flavor is less desirable and the flesh becomes soft.

It should be remembered that the ordinary temperature of a cooling room or refrigerator is not cold enough to keep fresh fish in prime condition. It should instead be buried in fine cracked ice. For shipment and storage, it is frequently frozen into blocks of ice.

All fish should be thoroughly cleaned before cooking.

Dried, *Salted*, *Smoked* and *Pickled* fish should always be kept out of the sun and as cool as possible. If the brine dries out or leaks away in transit or in the cellar, rebrine them at once. Keep the barrel covered and use a special fish fork for handling the fish.

Smoked and cured fish of all kinds are best in cold weather.

Canned fish, as also all other kinds of canned goods, should be emptied into a china or glass vessel or dish when the can is opened—it should never be left in the can.

Of the *fresh fish*, striped bass, butterfish, cod, cusk, eels, haddock, halibut, kingfish, Spanish mackerel, pollack, Pacific salmon, imported sole and sturgeon are found

in the eastern market all the year round. The others are, generally, in season in accordance with the following list:

ANGEL, or *Moon Fish*—July and August.
BASS: *Lake* or *Black*—June to December.
Sea—May to October.
BLACKFISH, or *Tautog*—April to October.
BLUEFISH—May to October.
BLOATERS—October to April.
BONITO—June to October.
CARP, *Common* or *Buffalo*—Middle of July to October. *German*—October to April.
CODFISH TONGUES and SOUNDS—October to May.
FLOUNDERS—Spring and Summer.
FROST-FISH—October to March.
GRAYLING—September to January.
GROUPER—November to March.
HAKE—See *Whiting*.
HERRING—October to April.
LAFAYETTE—Middle of August to November.
LAMPREY—April to May.
MACKEREL—April to September.
MULLET—June to October.
MUSCALLONGE—June to December.
PERCH—September to May.
PICKEREL—June to December.
PIKE—September to April.
POMPANO—May, July, latter half of November and December.
PORGY—June 15 to October 15.
REDSNAPPER—October to middle of July.
SALMON (Kennebec)—May 15 to September 30.
SHAD—January to June.
SHEEPSHEAD—June 15 to November 15.
SKATE, or *Ray Fish*—September to June.
SMELT—August 15 to April 15.
SPOTFISH—August to May.
TROUT, *American*—January to middle of July.
English—January to March.
Brook—April to August.
TURBOT, *American*—January to July.
English—January to March.
WEAKFISH—May 15 to October 15.
WHITEBAIT (Imported)—March to August.
WHITEFISH—November to July.
WHITING, or *Silver Hake*—September to January.

See also additional matter concerning the fish mentioned in their respective alphabetical positions.

FISH CULTURE or *Pisciculture*. Propagation of the principal food fishes is conducted on a steadily expanding scale in the United States and the results long ago demonstrated the immense national profit derived. The salmon, the shad and many other important fishes would in all probability be practically extinct to-day if the hatcheries had not supplied billions of young fish to help take the place of those harvested from the waters for human consumption. Such assistance is especially necessary in the case of all fresh-water fish and such salt-water fish as the salmon and shad, which leave the ocean to deposit their spawn in river beds and thus make total extermination possible.

The greater part of the work is now performed under the jurisdiction of the U. S. Fisheries Commission, supplemented by that of the State Fisheries Commissions and various sportsmen's associations and clubs. The U. S. Fisheries Commission maintains a number of hatcheries along the coast, in the chief shad and salmon rivers, at various points along the Great Lakes, etc. Their product is variously utilized—part of it is distributed in the natural spawning grounds of the immediate vicinity; great quantities are shipped, principally as "fry" and "fingerlings," to all parts of the country for the stocking and replenishing of ponds, rivers, lakes, etc., and a small percentage are brought to maturity for breeding purposes.

The fish most extensively cultivated are the various varieties of salmon, shad, cod, flounder, whitefish, trout, perch, pollack, smelt, bass, lobster, oyster, clam and terrapin.

In addition to helping replenish the natural supply, fish culture has resulted in creating new sources of food by introducing valuable varieties into waters in which they were previously unknown. Shad, for example, was formerly unknown on the Pacific coast, but it is now nearly as plentiful there as on the Atlantic.

The eggs are obtained from many sources—purchased from fishermen, taken from fish caught for the purpose, obtained from fish specially bred, etc. They are first

Main Deck of the Fisheries Steamer *Fish Hawk*, equipped for hatching shad

fertilized and then placed in the hatchery. With some varieties, the hatching apparatus consists of wire trays held in troughs of varying size—a single tray of the kind generally used for salmon, about 1 foot wide and 2 feet long, will hold two gallons, or 30,000, of salmon eggs. Others, as for whitefish, shad, lobsters, etc., generally consist of glass jars, similar to those shown in the accompanying illustration, from which the "fry" as hatched are discharged into glass tanks.

The "fry" may be distributed as such or, according to circumstances, held in troughs or artificial ponds or enclosures until six or seven months old. A seven months trough-raised "fingerling" salmon averages from 2½ to 3 inches in length.

During the year ending June 30, 1909, the U. S. Fisheries Commission distributed 724,558,703 eggs, 2,370,975,068 "fry" and 11,598,140 fingerlings, yearlings and adults.

FISH GLUE. See general article on GLUE.

FLAGEOLETS: shelled green young kidney beans, generally put up in bottles or cans, but also sold dried to a limited extent. The beans of the best grades are of special green-seeded varieties.

FLATFISH: fish with flattened bodies and both eyes on the upper, more highly colored side, as the Flounder, Halibut, Plaice, etc.

(1) Kingfish
(2) Striped Bass
(3) Sea Bass
(4) Whiting
(5) Flounder

FISH

FLAVORS, or *Flavoring Extracts.* See EXTRACTS.

FLAVORS OF FOOD. See sub-head in general article on FOOD VALUES.

FLAX: is the soft silky fibre of the flax plant, an annual which grows to a height of about two feet and is widely cultivated in different parts of the world, principally in temperate climates. It is made into linen and employed also in the manufacture of fine writing papers, known as "linen" and "bond," and some varieties of cordage, etc.

FLAXSEED: the small flat mucilaginous seed of the flax plant, better known as *linseed*—see LINSEED MEAL and LINSEED OIL. "Flaxseed tea" is a decoction of the boiled seed.

FLIES: are the natural enemies of the grocer and his stock—and of the housewife and her peace. They destroy goods, discourage trade and transfer disease. Screen every door and window and then catch those which intrude by fly-paper—screened or covered if possible, for dead flies are never attractive.

FLIP: a mulled beverage of spirits or ale, sweetened and flavored with spices, etc., drunk hot.

FLITCH of Bacon: the English name for a whole side of salt pork. The term is also sometimes applied to any large piece of side meat.

FLORENCE OIL: a title sometimes used for high grade Olive Oil (which see).

FLOUNDER, or Flatfish (*See Color Page opposite* 240): a common and well-known flatfish found at the mouths of rivers and along the coast. It varies in size from very small—five to the pound—to five pounds each. The spring and summer are the principal market seasons. The flesh is excellent—the fish being often skinned, filleted and served as "sole."

The *Common* or *Winter* Flounder, is the variety generally known under the title of "Flounder," but there are numerous other types, prominent among them being the *Dab*, the *Four-Spotted* flounder and the *California* flounder.

FLOUR: is grain of any kind ground to fine powder, as wheat flour, rye flour, etc. In general use, except when otherwise specified, the term signifies *wheat flour.*

Flour is an article of prime importance to the grocer, as the quality which he furnishes has a direct effect on the growth of his trade, especially in country districts. Great care should therefore be taken to purchase reliable brands which do not vary in quality and of which the stock can be constantly renewed.

In manufacture, the wheat is thoroughly cleaned, crushed by steel rolls into meal ("whole meal") and sifted or "bolted" through silk cloths to separate the "flour" from the germs and bran (see WHEAT). The "flour" is then ground, sifted and purified —once or several times, according to the grade required.

The following rules may be used as preliminary tests for flour:

First, look at its *color.* If for bread making especially, it should be creamy-white, for this generally indicates a strong flour. If for pastry, a starchy-white color

is acceptable, as this indicates a soft flour. If it is so white as to have a bluish or grayish cast, or if it contains small black or bran specks, it is not desirable for either purpose.

Next, examine its *adhesiveness*. Make a dough by mixing a small quantity with water. If it works dry and elastic, it is good; if soft and sticky, it is poor. If when pulled apart it breaks short, it is deficient in gluten and therefore not suitable for bread making, though if it is good in other respects it may be satisfactory for pastry, etc. If the dough is tough and tenacious, it shows a large percentage of gluten.

The place where flour is stored must be moderately cool, dry, well-lighted, airy and never exposed to a freezing temperature nor to excessive heat. An even temperature of 70° to 75° Fahr., is best if it is to be used within six months; that to be held longer, should be kept in a cooler temperature. Whether in barrels or sacks, etc., it should always be placed on a rack at least two inches from the floor in order to allow a current of air to pass under and prevent dampness and it should not be placed in contact with grain or other substances which are liable to generate heat.

Flour is peculiarly sensitive to atmospheric influences—hence it should never be stored in a room with any material which emits an odor—any smell perceptible to the human sense will be absorbed by it. Damp cellars or close lofts are especially unsuitable.

Flour of good quality improves in flavor and character up to about six months and under proper conditions will retain its merit for a considerable time thereafter.

The three chief varieties of wheat flour are the "Patent" or "Standard Patent" (white), "Graham" and "Whole Wheat"—the last two containing part or all of the outer branny covering of the wheat. There are many grades on the market, but no one universally recognized standard. It is packed principally in sacks of paper, cotton or jute of various sizes, from 2 to 98 lbs. A barrel contains 196 lbs.

Flour should be sifted that the particles may be thoroughly disintegrated before baking. If cold, it should be warmed before use. This treatment improves the color and baking properties of the dough. Bread sponge should be prepared for the oven as soon as the yeast has performed its mission, otherwise bacterial fermentation sets in and acidity results. Too cold a dough causes too slow fermentation.

Average analyses of wheat flour show from 8 to 12% water; 8 to 15% protein, 1 to 3% fat, and 60 to 80% carbohydrates (See Food Values). White flour generally has a little more carbohydrates and a little less protein than Graham and Whole Wheat flour.

In some sections, retailers find also a good demand for rye flour and those doing a "fancy" trade include in their stock such special varieties as barley, chestnut, potato, rice, "Boston Brown Bread," etc. The first four are chiefly imported.

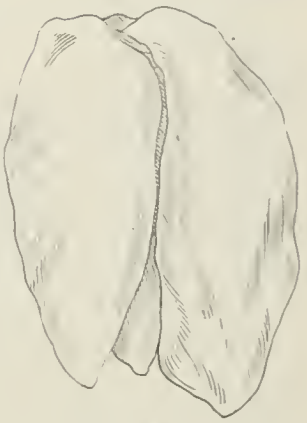
See also Rye, Self-Raising Flour, Farina, etc.

FLUKE: a northern sea fish resembling the Flounder (which see).

FLUMMERY: a thick hasty-pudding made of oatmeal or rice, flavored with milk, bitter almonds or orange flowers, etc. It is known as *Sowans* in Scotland.

FLY-PAPER: should not be kept in the cellar or any damp place. Warm upper floors are preferable. Three points should be remembered: keep it dry—keep it flat—keep it moderately warm.

FOIE GRAS: signifies literally and actually "fat liver"—but it is applied particularly to the livers of fat geese. Those of fat ducks are similarly employed but the product is considered inferior and retails at lower prices.



A fat goose liver

One of the most famous industries of Strasburg, Germany, and Toulouse, France, is the scientific fattening of geese for the enlargement of their livers. The birds are kept in special coops which prevent their taking exercise and are fed to the limit of their capacities. Their health is, however, carefully watched and the treatment is temporarily suspended in the case of any bird which shows even the slightest symptoms of sickening.

Foie gras is imported in jars or tins in four forms—*Foie Gras au Naturel*, *Pâté de Foie Gras*, *Purée de Foie Gras* and *Saucisson de Foie Gras*.

Foie Gras au Naturel consists of full livers, plain cooked, put up in tins of several sizes. It is intended for use in the preparation of aspics, etc.

Pâté de Foie Gras, the principal form, was invented at Strasburg toward the end of the eighteenth century by Clausse, then chef of the Governor of Alsace. The cooked livers, seasoned with wine, aromatics, etc., and with cut truffles added, are filled into earthenware "terrines" for *Terrine de Foie Gras*, or pastry shells or crusts for *Pâté de Foie Gras en croûte*, and surrounded and covered with a forcemeat made of liver trimmings and pork. In the best grades the livers are whole; the lesser qualities are of cut pieces. The terrines are made in two styles—the "flat," called "casseroles," generally light yellow in color, and the "high," brownish-red in hue—both styles in various sizes holding one-eighth, one-quarter, one-half and one pound. The Pâté is also sometimes packed in jars of elaborate richness of appearance.

A good Pâté when opened should have, covering the other contents, a quantity of white or yellowish fat, rendered from the liver itself during the cooking, and should give out an appetizing odor. If the liver appears dry and bare of grease and gives out an unpleasant odor, the jar should be returned to the seller to be exchanged for another. This condition may be found occasionally, no matter what care has been exercised in putting up the product.

Only Pâté de Foie Gras made in the country or district in which the geese are reared and fattened is really worthy of the name, as a first-class product can only be made from fresh livers. A Pâté made from preserved livers is never as rich because the liver necessarily suffers by the second cooking.

Pâté de Foie Gras should always be served very cold—only in that condition is the full fine flavor obtainable. It is best to set it on ice for several hours before serving. If ice is not obtainable, the terrine should be submerged in the coldest water obtainable and kept there as long as possible. This precaution is naturally most important in summer and in warm countries.

Purée de Foie Gras is made of whole livers and liver trimmings with some pork added, well seasoned and cooked and then pressed through a fine sieve. Small pieces of truffle are added and the paste is then canned like other potted meats.

Saucisson (sausage) *de Foie Gras*, put up in cans of cylindrical shape, consists of the liver cut in small pieces, pistachio nuts and pieces of truffle, etc., added, the whole mixed with liver trimmings and pork, then forced into casings and cooked.

FONDANT: soft white candy made by boiling sugar to the "ball" and working it till perfectly white. It is used for making bonbons, chocolate creams, etc., and, when softened by heat, for icing cakes, etc.

FOOD VALUES — *the Foods we eat, their Characters, Comparative Values and Digestibility.* There is much yet to be learned concerning the comparative effects of foods taken into the human system and the processes by which they are converted into flesh, blood, bone, nerves and brain, but the advance of knowledge in these matters has been very rapid during the last few decades and sufficient has been ascertained to give the average individual a very fair idea of the needs and the requirements of the "machinery" which enables him to live and of the composition of the machinery itself.

Many and complicated are the natural chemical processes by which food is transformed in the human stomach, intestines, veins, etc., but a general consideration of the subject is simplified by the fact that the beginning and the end—*i. e.*, the food put into the stomach and the body built and sustained by the food—are composed chiefly of the same chemical compounds. In other words, the human body is composed of water, protein (a term which includes the principal nitrogenous compounds), fats, mineral matter (phosphate of lime—the mineral basis of bone—and numerous compounds of potassium, sodium, iron, magnesium, etc.), and carbohydrates (starches, sugars, etc.). And all these components are found in varying proportions in the foods we eat, though in the human body the carbohydrates become principally fats, only a very small percentage being reproduced as sugar, etc.

Water constitutes about 60% of the entire weight of the average person, protein forms about 18%, fats about 15%, minerals about 6% and carbohydrates a little less than 1%.

After the large amount of water and the small amount of minerals, both of which are absolutely essential to life, the *proteins* are the constituents of the first importance for they are the chemicals which chiefly build the flesh, bone and muscle of the body. The principal protein compounds may be divided into albuminoids and gelatinoids (classed together as "proteids") and extractives. Of these, the albuminoids are the chief and the real body builders and the extractives are the least important except that they provide the flavor of meats, etc., and thus stimulate appetite and digestion.

Protein is found in all human foods—but in greatly varying proportions. In this country, any lack in other foods is made up, and very often over-done in that respect, by the excess of protein in meats—lean meat consists almost entirely of protein and water—and by the consumption of eggs, fish, etc. In Asia, the insufficiency of protein in the rice diet is supplied in some parts by the use of beans and peas (dried beans being even richer in protein than meats, in addition to their great percentage of carbohydrates) or by the consumption of fresh or salted fish; or by both beans and fish. And similarly, in one way or another, as the result either of instinct or experience, has the balance been maintained with at least some degree of accuracy in every part of the world.

We have said that the protein practically builds the machinery of the human body—but a machine needs fuel to operate—and, similarly, the human body requires the necessary chemicals to produce heat and energy. These it obtains to some degree from the protein but principally from two other forms of food—*fat* and *carbohydrates*. Fat is the most condensed form of fuel but the average digestion does not take kindly to it in over-large quantities so the greater part of the supply is in carbo-

hydrates—practically "sugar" for the starches are converted into a form of sugar in the stomach and intestines, as a preliminary to their assimilation by the body.

Be it understood that the term "fuel" is not used as a mere figure of speech—it represents the actual uses of the food, for fats and sugars are consumed in the body by chemical processes which are allied in general character to the consumption of coal in the fire which drives an engine. The sums of heat and energy engendered in the digestion, etc., of different foods have been carefully ascertained and recorded and are credited as so many "calories" or fuel units to a pound of each kind of food. Butter, for example, being 85% fat, is a fine type of human fuel and is credited with 3,410 calories per lb. Sugar, 100% carbohydrate, contains 1,750. Beef varies from only 500 to 1,400—the principal value of beef being as already noted for its protein, or as a flesh and muscle builder, instead of for "fuel" purposes.

The principal forms of fat for food are those in meats of all kinds, butter, cheese, a few fruits (as olives) and several kinds of nuts.

The principal sources of carbohydrates are cereals of all kinds (wheat and rye flour in the form of bread and otherwise, corn, rice, oatmeal, tapioca, etc.), dried beans and peas, a few kinds of nuts, several varieties of dried fruits, potatoes, etc., and in a lesser degree some fresh fruits, as apples and bananas.

Sugar is 100% carbohydrate—but the system can only take it in moderate quantities, not being fitted for the exclusive use of full carbohydrates any more than for the use of large quantities of fat—it prefers both mixed with other components as in sweet, starchy or fatty foods, or to produce them itself by conversion.

The excess of fat and carbohydrates after supplying the immediate necessities of heat and energy, is stored in the body in the form of fat, which, except when excessive in amount, stands as a very real reserve store of energy when at any time the body requires more fuel than it can draw from the immediate supply of food. A person who for any reason does an unusually excessive amount of physical labor may lose several pounds in weight in a few hours—the energy and heat developed and utilized are necessarily drawn from the reserve force of the body as the food supply for the same period could not furnish so large an amount under such conditions of activity.

A well-regulated diet for an average person of normal digestion must, therefore, contain a variety of foods sufficient to supply the system with an abundance of water (as a beverage or in food), a sufficient amount of protein to repair the waste of tissue and "energy foods" (fats and carbohydrates) in accordance with his manner of life—the more the labor required from the body, the greater should be the supply. Still further, the greater the proportion of hard physical labor in outdoor occupations, the greater, generally, the proportion of the "condensed fuel"—fats and sugars—that may be advantageously used.

A diet principally of lean meat would supply too great a proportion of protein—one of fruits and vegetables, except dried peas and beans, peanuts, etc., would supply too little. Bread and good rich milk would make quite a satisfactory all-round diet—giving water, protein, fat and carbohydrates in very fair proportions and in easily digestible form, but, fortunately, we need not confine ourselves to such a very monotonous bill of fare! We can reach just as satisfactory a percentage by a judicious mingling of a variety of other foods with all kinds of delightful properties.

It will be understood that all statements concerning human diet necessarily deal in averages—every individual must regulate the details of his diet to agree with the results of his own experience. Furthermore, all percentages of food components

essential or desirable are subject to variation in different climates and countries and none is absolutely binding in the operation of the human machine—which is wonderfully adaptable in meeting exigencies. Lean meat, for example, contains very little fat and no carbohydrates, but the human body, when necessary, will obtain all its fats and carbohydrates by chemical transformation of the protein and a man might live for a long time on lean meat alone. But it would not be a safe or desirable diet!

The tables following give the average percentages of a number of general food items, after discarding general waste, as skin, bone, etc. The body receives a large proportion of the values recorded in the cases of persons of good digestive organs, if the foods are properly prepared—which in most cases means properly cooked.

The importance of good cooking cannot be over-estimated—incompetent preparation often means the loss of much of the value of the foods eaten. The valuable carbohydrates, for example, are chiefly very small starch grains enclosed in tiny cells with thick walls on which the digestive juices have little effect unless the walls have been broken by cooking—and this is only one of a great many examples that might be cited.

The purposes of cooking are threefold—(1) to assist digestion by preparing the food for the action of the digestive juices; (2) to quicken the flow of the saliva and digestive juices by making food pleasing to the palate and other senses, and (3) to destroy by heat any disease germs or parasites that it may contain.

	WATER	PROTEIN	FAT	CARBOHYDRATES (Starch, Sugar, Etc.)	"ASH" (Mineral Salts, Etc.)
BEEF (*fresh*)					
Chuck (rib)	67	19	13	....	1
Loin (medium)	61	19	19	....	1
Ribs	57	18	24	....	1–
Round (medium)	68	21	10	....	1–
Shoulder and clod	69	20	10	....	1+
Liver (beef)	72	20	5	1½	1½
CORNED BEEF	54	15	26	....	5
VEAL					
Breast	68	20	11	....	1
Leg Cutlets	71	20	8–	....	1–
Liver (calf)	75	17	6–	....	1+
MUTTON					
Leg	63	19–	17–	....	1
Loin (without kidney or tallow)	48	15	36	....	1–
LAMB					
Loin	53	18	28	....	1
Leg	59	18	22	....	1
PORK, *salted* and *smoked*					
Bacon	20	10	65	....	5
Ham	10	16	39	....	5
Salt Fat Pork	8	2	86	..	4
PORK (*fresh*)					
Loin (chops)	51	16	32	....	1–
Hams (fresh)	50	16	33	....	1–
POULTRY					
Fowl (medium age)	60	20	19	...	1+
Turkey	58	22	19	....	1+

	WATER	PROTEIN	FAT	CARBOHYDRATES (Starch, Sugar, Etc.)	ASH (Mineral Salts, Etc.)
*FISH (*fresh*)					
Cod (dressed)	83	15½	½	...	1–
Mackerel	74	18	7	...	1–
*FISH (*preserved* and *canned*)					
Canned Salmon	64	22	12	....	2
Salt Cod	58	21	½	...	20½
†SHELLFISH					
Oysters	88½	6	1–	3½	1–
Lobster	79½	16	2–	½–	2
EGGS (uncooked)	74	13	12	....	1–
DAIRY PRODUCTS					
Whole Milk	87	3+	4	5	½
Skim Milk	90+	3½	½–	5+	½
Cream	74½	2½	18	4½	½
Butter	11	1	85	....	3
CHEESE (Cheddar type)	27½	27½	37	4	4
FLOUR, CEREALS, Etc.					
Wheat Flour	12	11½	1	75	½
Rye Flour	13	7	1–	78	1–
Rice (ordinary or "polished")	12	8	½	79	½
Oat Breakfast food	8	16½	7	66½	2
Wheat Breakfast food	10	12	1½	75	1½
Cornmeal	14	9	2	74	1
Macaroni	10½	13½	1–	74	1
BREAD (*White Wheat*)	35½	9	1½	53	1
VEGETABLES					
Beans, white (dried)	12½	22½	2–	59½	3½
Beets (fresh)	88	1½	....	9½	1–
Cabbage	91	2	....	6	1
Potatoes	79½	1½+	....	18	1–
Squash	90	1–	½	8	½ –
Sweet Potatoes	71	1½	½	26	1–
Tomatoes	94½	1–	½	3½	½
‡FRUITS					
Apples (fresh)	85–	½	½	13	½
Apples (evaporated)	27	2–	2–	67	2
Bananas	77	1	½	20½	1–
Dates (dried)	15+	2–	3–	78½	1½–
Figs (dried)	19–	4–	1½	74	2½
Grapes	79	1½	1½	17½	½
Oranges	87½	1–	....	11	½
Prunes	22+	2	....	73½	2½–
Strawberries	91½	1–	½	6½	½
‡‡NUTS					
Pecans	3½	12–	70½	12	1½
Peanuts	7½	30	43½	17	2
Walnuts	3½	18–	60½	16	1½

* See also article on Fish.
† See also article on Shellfish.
‡ See also article on Fruits (Food Values).
‡‡ See also article on Nuts.

In order to avoid incorrect deductions from a study of the tables given, we may add that, though the chief purposes of food are to build the body and supply it with the necessary warmth and energy, and that therefore the principal foods may be

judged by their percentage of protein, fat and carbohydrates, etc., the limitations of the human digestive organs must always be borne in mind. Cheese, for example, is rich in both protein and fat, and the peanut in protein, fats and carbohydrates—either should apparently be most valuable as a leading article of diet, but the average digestion will accept and assimilate them only in small quantities.

On the other hand, many vegetables which show but very small percentages of food value are of vital importance because of the salts they contain and because their special composition assists in the digestion of the main foods. Many fruits have this useful quality in addition to high food value.

The average American diet is not so far from being correct as many critics declare and it could be made an excellent standard by decreasing the amount of meat generally consumed and increasing the proportion of green vegetables and fruits. An excessive consumption of meat means an over-supply of protein which doubles the work—and therefore the risks—of nature to dispose of it or to convert it into carbohydrates, in the latter case endangering the balance of health by giving the system too great a supply of fuel—for, as already noted, there is an ample supply of carbohydrates in all popular diets, the only lack in other than American being in the supply of diminutive size.

The Flavors of Food. The distinctive flavors of different foods are attributable to a variety of causes.

In fresh meats, they are due to the *extractives* which in varying proportions form part of the protein. Some "game" birds are especially rich in that respect—hence the high esteem in which they are held by epicures. The flavors of fruits and vegetables are usually attributable to similar components. The extractives are generally enhanced by the process of cooking—and in meats, birds, etc., are also developed by "aging" in a greater or less degree.

In many other foods, the distinctive flavor, instead of being an essential part of their natural development, hinges on the special methods of their commercial preparation. In hams and other smoked meats, it is largely due to the acid in the wood smoke in which they are suspended. In black tea, cheese, butter and many other examples, it is the result of chemical changes brought about by the growth and respiration of microscopic plants during manufacture—for all plants, whether microscopic or visible, breathe as do human beings, producing the same chemical change of the oxygen of the air into carbon-dioxide.

The difference between green and black tea is attributable chiefly to the fact that for the latter the tea leaves are allowed to ferment before they are "fired" or roasted. This, translated in the light of modern botanical knowledge, means that the microscopic plants in the moist leaves are permitted to respire for a time before they are killed by the heat applied in the firing machines.

The difference between Camembert and Swiss cheese—or any other varieties—is similarly the difference in the microscopic plants which respired within them during the process of ripening—plants furthermore that can be transplanted in spite of their protein.

See articles on BACTERIA, MOLD and YEAST.

Time Required for Digestion. The table following gives the average time employed in the digestion of the foods named. No absolute deductions can be made from the

(1) Cod
(2) Haddock
(5) Halibut
(3) Pollack
(4) Hake

FISH

figures, but foods which take longer than four hours for the process are generally undesirable, except in very limited quantities.

	Hours.	Min.
Apples (raw)	1	25
Apples (stewed)	1	35
Beans (boiled)	2	30
Beans (purée)	1	30
*Beef (lean, rare, roasted)	3	00
Beef (stewed)	2	45
Beef, fresh salted (boiled)	2	45
Beef, old salted (boiled)	6	00
Beefsteak (grilled)	3	00
Beets (boiled)	3	45
Bread	3	30
Butter (melted)	3	30
Bread and butter with coffee	3	45
Cabbage (boiled)	4	30
Chicken (boiled)	2	00
Chicken (fricasseed)	2	45
Chicken (roasted)	4	00
Cheese, old	3	30
Duck (roasted)	4	00
Eel (roasted)	6	00
Eggs, fresh (raw)	2	00
Eggs, fresh (whipped raw)	1	30
Eggs, fresh (soft boiled)	3	00
Eggs, fresh (hard boiled)	4	00
Eggs, fresh (scrambled)	3	00
Fish (other than fat varieties, boiled)	1	30
Fish (other than fat varieties, fried)	3	00
Hashed Meat (warmed)	2	30
Liver (calf's, fried or sautéed)	2	30
Liver (beef, fried or sautéed)	3	00
Lamb (grilled)	2	30
Lentils (boiled)	2	30
Milk (raw)	2	15
Milk (boiled)	2	00
Mutton (boiled or broiled)	3	00
Mutton (lean, roasted)	3	15
Nuts	5	00
Oysters (raw)	2	55
Oysters (stewed)	3	30
Onions (stewed)	3	30
Peas (boiled)	2	30
Pig, suckling (roasted)	2	30
Pork, fat (roasted)	5	15
Pork, salt (boiled)	3	15
Potatoes (baked)	2	30
Potatoes (boiled)	3	30
Rice (boiled)	1	00
Sausage, fresh (grilled)	3	30
Sausage (smoked)	5	00
Spinach (stewed)	1	30
Salmon, fresh (boiled)	1	30
Turkey (roasted or boiled)	2	30
Turnips (boiled)	3	30
Veal (roasted)	4	30

*Meat is generally more easily digested raw than cooked, but its consumption in that condition is attended with risk of intestinal disturbances from the parasite life it sometimes contains.

Comparative Digestibility of Foods. The following list of foods considered from the standpoint of the ease or otherwise with which they can be digested by dyspeptics, is adapted from a folder entitled *Diet and General Directions Suitable for Those Suffering from Indigestion*, given by the authorities of Cambridge University, England, to each pupil on or shortly after his arrival:

First Group. *Articles easy of digestion and most suitable for the dyspeptic.*

Chicken, eggs (lightly cooked), sweetbread, squab, mutton, venison, rabbit.

Flounder, chicken halibut, smelt, whiting.

Stale bread, biscuits, arrowroot, cornstarch, rice, sago, tapioca.

Asparagus, cauliflower, sea-kale, string beans.

Baked apples, grapes, oranges. Beef-tea, milk, mutton broth.

Toast-water, black tea, Bordeaux wines (Claret and Sauternes), Rhine wines, dry sherry.

Second Group. *Articles moderately easy of digestion, but only admissible in the less severe cases of indigestion.*

Soups in general.

Beef, lamb, hare, turkey, duck, guinea fowl, wild waterfowl, woodcock, snipe.

Bass, cod, haddock, oysters (raw), perch, pike, pollack, porgy, pompano, Kennebec salmon, shad, trout, turbot, weakfish, whitefish.

Artichokes, cabbage, potatoes, salads of lettuce or cress, tomatoes, turnips.

Apples, apricots, gooseberries, mulberries, peaches, pineapples.

Cooked fruit in general, marmalade, jelly, richly made farinaceous puddings.

Cocoa, coffee, malt drinks, Madeira and Burgundy.

THIRD GROUP. *Articles difficult of digestion. Few of the articles contained in this group should ever be taken by the dyspeptic, and those to which an asterisk is prefixed should be regarded by him more in the light of poison than food.*

Hard-boiled eggs, *pork, *veal, *goose, the brains, *heart, *liver and *kidney of animals, *hashed or *stewed meats, salt meat, *sausage.

Cockles, crab, crayfish, *eel, herring, lobster, *mackerel, *mussels, cooked oysters, prawns, salmon, scallops, shrimps, skate, sprats, sturgeon and salted fish in general.

New bread, cheese, *muffins, *mushrooms, pancake, *pastry in general, pickles, plum pudding, *suet pudding, buttered toast.

*Nuts of all kinds.

Cherries, pears, plums, dried fruits.

Beans, beetroot, carrots, *raw cucumbers, endive, Jerusalem artichokes, onions, parsnips, peas.

Chocolate, champagne, port, liqueurs.

GENERAL DIRECTIONS. Dyspeptics should observe great regularity in the hours of meals—any changes in the time of meals should be gradually made. Solid food should be thoroughly masticated before being swallowed.

FOOTS: the settling in oil, sugar, honey or molasses casks. All scrapings of sugar hogsheads and other refuse of sugar warehouses, etc., come under this name. It is also applied to industrial Olive Oil (which see), etc.

FORBIDDEN FRUIT: another name for the Shaddock (see GRAPE FRUIT).

FORCEMEAT: chopped meat mixed with herbs and condiments, used for stuffing fowls, for croquettes, etc.

FOWL: a word which was originally used in the same general sense as "bird" but which is in modern language applied only to poultry, particularly the domestic cock or hen, and to-day generally signifies those too old for broiling. The word "chicken" is now almost universally used both in trade circles and in government reports to designate fowl of any size killed for eating.

FRANKFURTERS. See sub-head in general article on SAUSAGES.

FREEZING. Fruits, vegetables, etc., and nearly all liquids are very liable to damage by frost, and care should be exercised when ordering them in cold weather, as such goods are generally sent at the risk of the purchaser. In winter, the cellar is the best place for all goods in bottles, tin or wood, which are liable to freeze—a bottle of bluing or ink that freezes and cracks may ruin a whole shelfful of goods.

FRENCH BEANS: the English name for String Beans (see BEANS).

FRENCH BREAD: a popular title for long, very narrow loaves. See BREAD.

FRENCH DRESSING: a term applied to several receipts for simple salad dressings. The correct formula consists of four parts of olive oil to one part of good vinegar, with a small quantity of fine table salt and ground pepper—two saltspoonfuls of salt

and one-half saltspoonful of pepper being in correct proportion when four tablespoonfuls of olive oil are used.

A little onion juice or chopped parsley, tarragon, chives or chervil may be added if desired.

FRENCH ROLLS: a somewhat indefinite term popularly applied to almost any good-quality bread rolls, particularly those in special shapes.

FRENCH WINES. Among the best known types of French wines are Champagne, red and white Bordeaux wines (see CLARET and BORDEAUX WINES, WHITE), Burgundy, Saumur, Cette, Hermitage and Rivesaltes, all of which are listed elsewhere in their alphabetical positions.

FRIED CAKES: a local name for Crullers and Doughnuts.

FRIEDRICHSHALL. See article on table and medicinal MINERAL WATERS.

FRIJOLE BEANS. See sub-head in general article on BEANS.

FRITTERS: a species of fried batter-cake, generally enclosing fruit, sweetmeats, poultry, meat, fish, etc., as Banana Fritters, Clam Fritters, etc.

FROGS' LEGS. The hind legs of the common green frog are enjoyed in both Europe and the United States as a delicate food much resembling chicken. There are two varieties on the market—the small marsh frog and the large bull frog. The latter is

A Pennsylvania Frog "Farm"—the masses floating on the surface of the pond are frog spawn nearly ready to hatch

the more convenient for use and market purposes, but the smaller kind is more delicate in flesh. They are in season all the year, but are considered best from June to October.

Frog farming has become a recognized industry, the output of the ponds having, in the neighborhood of large cities, a sure sale at fair prices. Among the devices for feeding them are boards smeared with honey or sugar, to attract insects which the frogs greedily devour.

FROST-FISH or Tom-Cod: a small American fish varying in weight from five to a pound to a pound each. It is most plentiful in winter.

FROSTING: a domestic term for meringue or icing for cakes. See ICING.

FRUITS—Their Food Values, Etc. It is not so many years ago that the arrival of the "strawberry season" constituted as real and distinct a mark on the calendar as the commencement of school holidays. The season was short—and for that reason perhaps the berries seemed doubly delicious! Then, later on, the Raspberry reached the markets and the hucksters heralded its arrival through the streets. And so the spring and summer divided their honors among various fruits, sometimes singly and again in groups.

But now, all bars are down! We can enjoy most fruits the year round—the prices vary, but there is seldom any "closed season." And many fruits formerly rare are now plentiful. The best example of this is the banana—a few years ago a rarity to the inhabitants of inland towns, but to-day found in every hamlet throughout the country. In the winter, it and the orange, pineapple and other tropical and sub-tropical fruits from California, the south and elsewhere, are supplemented with fancy melons, peaches, plums, etc., from various parts of the world—including southern Europe and South Africa—and early in the spring, long before they are ripe in the North, Florida and other southern points are shipping carloads of strawberries and other berries up through the states. Modern methods of refrigeration and transportation have revolutionized this branch of our food supply.

The fruits of temperate climates can nearly all be divided into three classes—*stone*, such as plums, peaches, etc.; *pome*, apples, pears, etc., and *berries*. The principal exceptions are melons, rhubarb and kindred fruits more nearly allied to what are popularly known as vegetables.

Tropical fruits are more diversified in characteristics, but one family, the *citrus*, includes a number of the best known—as oranges, grape fruit, lemons and limes.

In addition to the delicious and pleasing variety they give—or should be allowed to give!—to the diet, fruits of all kinds, because of their composition and components, greatly assist in the functions of general digestion and thus increase the value obtainable from what may be described as the "main" foods. The quantity that may be eaten raw, depends upon individual circumstances. An excess of unripe fruit may cause stomach irritation as the result of an excess of acid generated—and over-ripe sweet fruits may set up abnormal fermentation—but a moderate amount of fruit in fairly ripe condition will nearly always be found most advantageous. Cooked fruits can be used and enjoyed with equal benefit and still greater freedom.

The composition of a majority of ripe, fresh fruits includes about 80% water, a fair percentage of carbohydrates—principally sugar and crude fibre—and a small percentage of protein compounds and mineral salts, ether extract, etc. The sugar per-

centage, considered particularly as food or nutrient value, is lowest in berries, as blackberries and strawberries, and highest in bananas, loquats and American persimmons. Next in degree below the last-named are cherries, medlars, pears, Japanese persimmons, pomegranates, sapodillas, scarlet haws and apples.

It is, however, largely the combination of water, sugar and crude fibre and salts rather than their nutritive components which makes most fruits so desirable an addition to the diet and gives them their value as anti-scorbutics, laxatives, etc.—hence, as auxiliary foods, some fruits of minor food percentages (lemons and oranges, for example), are as desirable and useful as they are delicious.

Lemons, limes and similar fruits popularly known as "acid" or "sour," hold most of their merit in their juices and consequently genuine lime or lemon juice is nearly as efficacious as the fresh fruit, but in a majority of other fruits it is the *combination* referred to which gives them their medicinal value. Remembrance of this fact will guard against many popular errors. It is a common supposition that it is the juice of the orange, for example, which contains the laxative value when the fruit is taken early in the morning, and hence many people express it into a glass to drink it—and are disappointed in its effects. Orange juice is a delightfully refreshing, cooling beverage, but it is the whole flesh of the orange which should be eaten—to get the combination of the sugar of the juice and the crude fibre, etc., of its containing matter.

The flavor of fruits is due partly to the malic, citric and other acids which they contain, but chiefly to their ether extracts. The reason that some fruits, as very sweet apples and pears, seem sweeter to the palate than other fruits containing a larger percentage of sugar, is found in the fact that they may contain a larger average proportion of *Fruit Sugar* as distinguished from *Grape Sugar*. Both are "sugars" but the former is much the sweeter to the palate.

Nearly all fruits are best held at a temperature of about 40° Fahr.—the temperature of the ordinary refrigerator. Anything below that, any approach to freezing, is dangerous to most varieties.

Temperate-climate fruits, as apple, pears, etc., will under ordinarily good conditions keep fairly well in a temperature not exceeding 60° to 65° Fahr., but when the thermometer goes above that point, all stock except that for immediate sale or consumption should be stored in the refrigerator. Citrus fruits—oranges, lemons, limes, grape fruit, etc.—are generally safe up to 80° or 85° Fahr., but beyond that they are liable to shrivel and dry out.

Fancy Fruits, such as hothouse grapes, fine peaches, green figs, etc., should always be kept at a temperature of about 40° Fahr., only the smallest necessary quantity being exposed for show, and must be carefully handled to avoid bruising.

The exceptions to these rules are fruits which require ripening after receipt, as bananas (which see), some varieties of pears, etc.

All fruits should be washed before eating.

Dried fruits, such as prunes, figs, apples, etc., should be consumed more freely than at present, for they contain all the good qualities of the fresh fruit—the only loss having been of part of their water content. In some, prunes for example, the sugar value is increased by the process of drying. See article on FOOD VALUES and the matter concerning individual fruits under their respective headings.

FRUIT BUTTERS: are preserves of fruits, made without retaining their form, less sweet than jam and of a consistence somewhat resembling butter. The trade usually

buys them in large wooden pails and retails them by the pound. Many of the lesser grades are prepared from damaged fruits and the lowest quality of molasses.

FRUIT CONCRETE: of lemons and oranges, is a term sometimes applied to terpeneless essential oils.

FRUIT EXTRACTS, *Essences, Flavors.* See article on EXTRACTS.

FRUIT JARS. See remarks under heading of JARS.

FRUIT JUICES. High class fruit juices are simply the expressed juices of ripe fruits, sterilized before fermentation has commenced and carefully bottled. Among the most popular types are grape juice, lime juice and unfermented cider (apple juice), which are treated under their respective headings. If the fruits are sound and the process of manufacture carefully controlled, no preservatives of any kind are needed.

The addition of sugar is permissible and also carbon-dioxide for carbonated fruit beverages, but if alcohol, preservatives or coloring matter are added, the label should disclose the fact.

FRUIT SYRUPS. As generally understood in the trade, Fruit Syrups are divided into two classes, those bottled to be retailed for home use in making summer drinks, and those put up in various kinds of receptacles for sale to soda fountains, etc. The best types are pure fruit juices concentrated and heavily sweetened. Lower grades are liable to be artificial both in flavor and color.

The home use of good fruit syrups is worth encouraging. They form an agreeable variation to the time-honored lemonade made from the fruit, and similar beverages, and are much less trouble—you merely pour a little syrup in the tumbler and fill with cold water, either plain or carbonated. There is no fuss with squeezers, sugar bowl, etc., and the result is deliciously refreshing.

The visitor to Paris always notes with interest the great variety of fruit *Sirops* sold at all refreshment stands and at the syrup booths along the boulevards. Their popularity is due to the fact that, as a general thing, their purity and quality have been carefully guarded. They are drunk mixed either with plain or effervescent water. Some customers who wish the sweetness modified, procure a delightful drink by adding wine—or substituting it for the water.

The Syrups most in favor are currant, raspberry, cherry, pomegranate (grenadin), and almond (orgeat).

Skill is also displayed in the mingling of flavors. *Sirop de groseilles*, currant syrup, for example, generally consists of four parts of red currant and one part of bitter cherries. *Sirop de groseilles framboisées*, is four parts of currant syrup and one part each of raspberries and bitter cherries.

FRUMENTY: a gruel made by boiling wheat in water until quite soft, then drained, thinned with milk, moistened with sugar and flavored with nutmeg, etc. When currants and eggs are added, the result is "Somersetshire Frumenty."

FRYING. See sub-head in general article on COOKERY.

FULLER'S EARTH: a non-plastic clay, used in "fulling" (cleansing and shrinking) cloth, to remove grease and for numerous other purposes. It is sold both in lump and powder, the latter obtained by soaking it in water.

FUNGI: a botanical term applied to all vegetation which is unable to draw its nourishment from the chemical components of the earth, as do all the "ordinary" plants, and must live on "organic" substances—animal or vegetable matter, alive or decaying—resembling in that respect members of the animal kingdom. The order comprises a great number of species, differing widely in size, appearance and characteristics—some very valuable, others most pernicious. The higher Fungi include all mushrooms, some of which rank as very nutritious human food, truffles and kindred plants. The smallest, known as micro-organisms, or *microbes,* include the yeast-cells employed in the making of wine, and in numerous other ways; the *molds* which produce moldiness, mildew, etc., and *bacteria* of all kinds.

See BACTERIA, MICRO-ORGANISMS, MOLDS, MUSHROOMS, TRUFFLES and YEAST.

GALACTOSE: a variety of milk-sugar or lactose formed by boiling it with dilute acid, which is frequently employed in the ripening of cheese. Old cheese is a predigested food, largely as the result of the action of galactose, which will continue working at low temperatures in which bacteria are practically inert.

GALANGALE: an aromatic root somewhat resembling ginger, imported from China. It is used, though less than formerly, as a condiment and medicinally.

GALANTINE: a name applied to fowls, game, fish or other meat, boned, stuffed and roasted—or boiled or braised—then pressed and cut in slices or put in molds, covered with aspic jelly and decorated with truffles.

"Goose Liver Galantine" and "Sweetbread Galantine" are also set in bases of well seasoned, fine chopped pork mixture in place of aspic jelly.

GALLON. See table of *Weights and Measures* in APPENDIX.

GAME: any wild bird or other animal used as food, such as grouse, rabbits, etc. The term is also applied in a limited sense to animals generally existing in a wild state even when partly or wholly domesticated.

The State and Federal Game Laws in force are so numerous and so varying in character and detail, that any attempt to condense or quote from them would probably prove misleading—especially as they are liable to change at any time. A recent government publication consumed fifty-four pages to cover the subject. Copies of the current issues of this, and many other instructive books and pamphlets, can be obtained by writing to the Division of Publications, Department of Agriculture, Washington, D. C.

GAMMON OF BACON: a local term for a leg of salt pork.

GARBANZA or *Chick Pea*: a food widely used in Mediterranean countries and, probably, the "pulse" of the Hebrews. It is much larger than the common pea, grows singly in round pods and presents a wrinkled appearance when dried. It forms the basis of the Olla Podrida of Spain.

GARDEN BALM, *Balm Mint, Lemon Balm*: an aromatic herb of the mint family, with, generally, a marked lemon odor. It is used chiefly for household culinary purposes and in the manufacture of liqueurs and perfumes.

Garlic—the roots tied to a bundle of straw

GARFISH: an elongated spear-mouthed fish, which looks like a cross between a mackerel and an eel. It is prepared and served in any manner suitable for eels.

GARLIC: a vegetable similar to a small onion but with the bulb divided into ten or twelve sections known as "cloves." At certain seasons it abounds in many pastures and imparts a very strong rank flavor to the milk and butter of cows which feed on it. Its main use in cookery is to flavor soups and sauces and in salads, pickles, etc.

GARNISH: a term employed in general culinary parlance to include almost anything dainty in appearance or composition served with meat and fish dishes, etc. It may be merely a simple border of parsley, sliced beets, etc., or any one of a hundred mixtures, including mushrooms, truffles, crayfish tails, shrimps, cockscombs, vegetables cut into shapes, etc., with or without sauce.

GARNISHEE: one in whose hands the property of another has been attached in a suit against the latter by a third person. He is "garnished," or warned, not to pay out any money, or deliver any goods, belonging to the party named, but to appear in court as having possession of such property.

GARUM: a heavily salted and highly seasoned sauce or relish made from fish—principally from those of the Scomber family, as the tunny, mackerel, etc.—in the state of fermentation, the flesh itself or the blood and gills being variously employed. The Garum of the Romans was generally prepared from the Anchovy (which see).

GAS. The revolutionizing of general illumination by the substitution of gas for candles and lamps, is credited to a Scotchman named William Murdock. He conceived the idea in 1792 and demonstrated its utility by illuminating his home at Redruth, Cornwall, with gas drawn through seventy feet of piping from the place of manufacture. He also advertised his invention by carrying portable gas-lamps through the streets, the burners supplied by bladders filled with gas. This first product was poor in illuminating power, smoky and unreliable, but Murdock made many improvements in it, including in his process its partial purification by passing it through water, which is still one of the essential features of modern manufacture. The first illumination on a large scale was by a Murdock installation which lighted the Soho Engine Works at Birmingham, England, in 1798. The pioneer American gas plant was erected at Newport, R. I., in 1812, by David Melville. The first gas company formed to light the streets of an American city was that in Baltimore in 1816. Boston followed in 1822 and New York in 1823.

The chief forms of commercial gas now utilized are coal gas, natural gas, water gas, producer gas, petroleum or oil gas and acetylene gas. Except where natural gas

(1) American Grouse (Prairie Chicken)
(2) American Partridge (Ruffed Grouse)
(3) Woodcock
(4) Quail

GAME

is obtainable, coal gas is the form chiefly employed for street and household illumination, household cooking, etc.

Coal Gas, also known as Illuminating Gas, is obtained by the Destructive Distillation (see sub-head in general article on DISTILLATION) of coal, principally bituminous (or "soft") coal. When used chiefly for illuminating purposes, it is frequently enriched by the addition of petroleum gas or benzol, a coal-tar product. The crude product is most offensive in smell, but its odor is greatly modified and reduced by passing through a "scrubber"—falling water on a coke bed or perforated iron plates—by purification by oxide of lime or iron, etc.

The storage tank or cylinder of the gas plant, familiar in general appearance to every consumer, is essentially a large "bell" set inside a circular steel framework. The bottom of the bell rests in a deep-water seal and is automatically raised as the gas is carried into it. When the tank is raised close to the top of the framework, it is full of gas; when it has shrunk low and the bare frame shows against the sky, the supply is very scant.

Commercial coal gas varies greatly in components but an average analysis will show about 46% hydrogen, 40% marsh gas (the principal constituent of natural gas), 5% olefiant gas or ethylene, which is extremely luminous, and 5% carbon monoxide. It is the carbon monoxide which renders coal gas especially poisonous.

Natural Gas, which flows freely from subterranean sources in various parts of this and other countries—generally from beds of coal or petroleum—varies considerably in composition, but marsh gas is its chief component. Pittsburg natural gas shows an average of 92% marsh gas and 3% olefiant.

Petroleum or *Oil Gas* is obtained by passing oil through superheated pipes or retorts. It can be made from any fats, oils or grease—even from some city garbage.

Producer Gas, so-called because made in various types of "producer equipments" or machines, is made largely from low-grade coal, hard or soft. Instead of being secured, as coal gas, by dry distillation, it is obtained by the destruction of the coal by its own partial combustion in closed furnaces, steam being introduced during the process. It was formerly employed chiefly in the iron industry. It is not suitable for household purposes but in recent years has become increasingly important as power fuel.

Water Gas is manufactured from anthracite (or "hard") coal, or coke, and steam. The coal is placed in an air-tight cylinder, ignited and blasted to incandescent heat. The blast is then shut off and dry steam is blown through, the resultant gas being carried by pipes into the reservoir. As soon as the coal begins to cool, the steam is shut off and the blast again blows the coal to a white heat, the process being repeated every few minutes until the coal is exhausted. Water gas is excellent for heating purposes, but where it is desired for illumination it is necessary to enrich it by the addition of carbon or petroleum gas.

Acetylene Gas is obtained by the action of water on calcium carbide. It gives a brilliant white light, but is too expensive for general use in competition with other commercial gases.

Store Illumination. The retailer who relies on gas for store illumination, should use the best burners and mantles obtainable and see that both are always in good

condition. With proper attention, a store lighted by gas can be made as brilliant as if wired for electricity.

The efficiency and cost of illumination is also affected by the color and coverings of the walls and ceiling. If painted white or even tinted a faint grey-cream, and kept clean and fresh, fully double the illumination will be obtained from the same number of burners as in places where the walls and ceilings are badly soiled or are covered with paper or paint of blue, green, brown or red. Next best to the faint grey-cream mentioned, are very light-greenish, and light yellow.

GASOLINE: a light inflammable oil obtained by the distillation of Naphtha. It has many uses, being employed in the household, etc., for illuminating and cooking, to generate power in automobiles, launches, etc., and for the cleaning of fabrics. When carried in stock, care should be taken to comply with all insurance requirements.

GAUGE, GAUGE ROD. Gauging is the method of determining the quantity of liquid in vessels such as barrels, casks, etc.

The exact capacity of any vessel or receptacle may be obtained by measuring the dimensions and then conducting the calculation upon geometrical principles. An approximate measurement can be obtained more easily by the average person by means of a gauge-rod suitably adjusted for the purpose. The instrument usually employed is a diagonal rod, the contents of the cask being inferred from the diagonal length, measured from the bung-hole to the extremity of the opposite stave at the head. On one face of a square rule is a scale of inches for taking the measure of the diagonal, the scale on the opposite face expressing the contents in gallons. Only approximate results are thus obtainable, yet with experience it is possible to measure the contents with sufficient accuracy to answer general requirements.

GEDORT. See sub-head in general article on CHEESE.

GELATINE: is made from various animal substances, but chiefly from the bones and the softer parts of the hides, etc., of cattle, by boiling them and treating with steam.

The best gelatines are generally secured from selected calf's stock—the cheek and neck pieces, membranes, skin, fibres, tissues, etc., and the organic parts of the bones. The crude gelatine thus obtained is placed in lime water for several weeks until it becomes free from all gross matter. It is next washed thoroughly in fresh water until it becomes delicate, white and translucent and, when put in the kettle, melts under the slightest heat. The liquor is finally drawn off slowly, clarified, filtered and run into pans to be cooled, after which it is sliced, dried and granulated.

It is difficult to test gelatine. Some manufacturers suggest a test with boiling water poured over soaked gelatine, attaching the highest importance to the absence of odor and color, but this may prove deceptive, as the very poorest gelatine can be made both odorless and colorless by bleaching the collogen with sulphuric acid or peroxide of hydrogen and many states forbid such bleaching.

Gelatine, although not a life sustaining food, is used in considerable quantities in hospitals and is recommended by physicians as an article of diet, because of its quality of making some other foods more palatable or more easily digestible.

Its uses in the ordinary household are many and varied, ranging from adding body to soups, to making candies, ice creams and desserts.

GENOA CAKE: a fruit cake with chopped almonds on top. "Seed Genoa" has caraway seeds instead of the almonds.

GEODUCK: a huge clam found on the Pacific Coast. One often serves as a full meal for several persons.

GERVAIS. See sub-head in general article on CHEESE.

GHEE: a sort of butter used by the natives of India, prepared generally from buffalo milk. The milk is boiled in large earthen pots for an hour or two, then allowed to cool, a little curdled milk called "dhye" being added in order to make the whole coagulate. After a lapse of some hours, the top five or six inches of the contents of each pot is taken off and placed in a larger earthenware utensil, in which it is churned, by means of a piece of split bamboo, for about half an hour. Hot water is then poured in, and the churning is continued for half an hour longer, by which time the butter has formed. The butter is allowed to become rancid and is then melted in an earthen vessel and boiled until all the water has evaporated. A little salt or betel-leaf is added and it is finally poured off into suitable vessels in which it can be preserved from the air, bottles being commonly used for the purpose.

GHERKINS. Several varieties of the common cucumber, generally those with prickly skins, are specially cultivated for gathering while still small to pickle as "Gherkins."

The original Gherkin, or Jamaica Cucumber, is a distinct variety native to Jamaica and locally used both fresh boiled and pickled. It is about half as thick as long, of light green color and prickly to a marked degree.

Gherkins

GIBLETS: a term which formerly signified only the entrails of poultry, but is now applied to parts and trimmings such as the heart, liver, gizzard, neck, and ends of the wings and legs.

GIN. There are on the market an unfortunately large number of "gins" which are badly adulterated imitations of the original *Jenever* of Holland, and they have tended to lower the spirit in general public opinion, but the finer varieties, both domestic and imported, deservedly hold among the initiated as high position as any other liquor.

The best gin is made from barley malt and rye, with generally a small percentage of corn. Practically all the product owes its flavor, either wholly or in part, to the use of juniper berries—its distinctive title being indeed due to this characteristic. In Dutch, French and Italian, the same words (*jenever, genièvre, ginepro*) apply equally to the liquor and the juniper plant, and the English "gin" is merely an abbreviated corruption of the Dutch "Jenever."

The name "Geneva," often used to designate Gin, is attributable to a popular confusion of ideas caused by the similarity of the Dutch and French names for the juniper berry with that of the noted Swiss city. The city of Geneva has never claimed prominence in, nor given its name to, the manufacture of gin.

The numerous varieties may be grouped in two general classes, one commonly known as "Holland" Gin, and the other as "British." Each is again divided into *Unsweetened*

or "Dry," and *Sweetened*, the latter type of British Gin being commonly known as "Tom Gin."

There are four principal steps in the manufacture of *Holland Gin*. The product of the first distillation is called "Ruwnat," or "low wines." It is low in proof and raw in taste and is re-distilled to form "Enkelnat," which is higher in proof and shows some gin character. The Enkelnat is re-distilled into "Moutwyn," which is the foundation of all Holland Gin. From it, by a fourth distillation, each distiller makes a number of varieties—coriander seeds and various roots being added to the juniper berries used in flavoring.

Holland Gin is generally made in several strengths, the milder to be bottled without blending, the stronger to be used for blending with neutral spirits, the former being decidedly superior. The most famous variety is "Schiedam Schnapps," named after the city of Schiedam, where more than 200 gin distilleries are in continuous operation. To the composition of Schiedam water is attributed much of the high reputation of its gins.

British Gin is made, both in Great Britain and this country, by first producing the highest grade of neutral spirits and re-distilling several times in a fractionating still, so as to eliminate practically all of the fusel oils, etc. When the spirit has reached the proper degree of purity it is drawn off into an old style "pot-still," and again distilled in conjunction with Juniper berries, and certain other flavoring berries and herbs—the latter varying in nature, as each manufacturer aims to produce a liquor of distinctive flavor.

Many of the lower class "gins" sold are merely alcohol flavored with essences.

Gin should be kept in a moderate temperature and always well corked.

Cordial Gin: is flavored with spices and heavily sweetened.

Orange Gin: is flavored with orange peel or its essential oil.

Sloe Gin: is made by steeping sloes in strong gin for a number of weeks, then filtering the liquid and diluting to the desired degree by the addition of water.

GINEP, or *Spanish Lime*: a fruit which resembles a plum in appearance, but of flavor suggesting the grape. Both the pulp and seeds are edible, the latter being sometimes roasted and eaten like chestnuts.

GINGER: in its commercial form, is the root-stock of the ginger plant (see illustration in *Color Page* facing 580), a perennial reed-like plant with annual leafy stems, three to four feet high, which grows freely in moist places in all tropical climates. The root is gathered when the stalk withers and is immediately scalded, or washed and scraped, in order to kill it and prevent sprouting. The former method, applied generally to the older and poorer roots, produces Black Ginger; the latter, gives White Ginger. The natural color of the "white" scraped ginger is a pale buff—it is often whitened by bleaching or liming, but generally at the expense of some of its real value.

White Ginger of the first grade should be large, light-buff throughout, soft and even in cutting and of strong characteristic flavor. The present supply comes chiefly from Jamaica, the Malabar Coast of India and the East Indies. "Cochin" and "Calicut" are titles borrowed from the two Indian cities of those names.

African ginger is dark, but has an excellent, strong flavor. "Borneo" ginger is merely a former trade term for some white ginger—none is exported from Borneo.

Japan Ginger, usually blanched or limed before shipment, is of fine appearance, large and smooth, but is much inferior in strength to the other varieties mentioned.

Preserved or *Conserved* or *Canton Ginger* consists of young green roots boiled and cured in syrup and put up in pots and jars. The principal consumption is of the imported Chinese product, but there is an increasing sale of West Indian.

Crystallized Ginger is also made from the younger roots. The best grades, from roots selected for uniform size and appearance, are called "stem ginger."

Other well known articles which have the root, or extracts from it, as a foundation are *Ginger Ale, Ginger Beer, Jamaica Ginger* (an alcoholic extract of the root) and *Ginger Tea.*

Medicinally, ginger—as Jamaica Ginger, etc.—is a grateful stimulant and carminative, being much used for dyspepsia, colic, etc. It is also frequently employed to disguise the taste of nauseous medicines. Ginger Tea is an old-fashioned remedy for colds.

"Switchel" is a summer drink, once very popular in the haying fields, made from ginger, molasses and water, with a little vinegar added to give it acidity.

U. S. Standard Ginger is ground or whole ginger containing not less than 42% of starch by the diastase method; not less than 46% of starch by direct inversion; not more than 6% of crude fibre; not more than 8% of total ash; not more than 1% of lime, and not more than 3% of ash insoluble in hydrochloric acid.

U. S. Standard Limed or *Bleached Ginger* is limed or bleached ginger containing not more than 10% of ash; not more than 4% of carbonate of lime; and conforming in other respects to Standard Ginger.

GINGER ALE: if of good quality, consists of distilled water, ginger, lemon and other flavors (such as sarsaparilla), the product being finally carbonated to give the effervescence desired. Inferior products frequently contain red capsicum ("red pepper") partly or wholly in place of ginger.

Ginger Ale is greatly improved by adding a sprig or two of bruised mint to the glass shortly before drinking.

GINGKO NUT: the nut of the maiden-hair tree. It is eaten roasted, principally by the Chinese. See also NUTS (*Food Values*).

GLACÉ FRUIT: another title for CRYSTALLIZED FRUIT (which see).

GLIADIN. See matter following title of GLUTEN.

GLOUCESTER CHEESE. See sub-head in general article on CHEESE.

GLUCIN: a very sweet coal-tar product resembling SACCHARIN (which see).

GLUCOSE—*Natural*: is a technical name given to a group of sugars found in fruit, honey, etc. The most important examples are *Dextrose* and *Levulose*, frequently called "grape sugar" and "fruit sugar," respectively. *Invert Sugar*, formed by the action of acid, digestive juices, heat, etc., on *Sucrose*—the technical name for the

ordinary "sugar" of general use, commercially extracted from sugar cane, sugar beets, etc.—is a mixture of equal parts of Dextrose and Levulose, the best natural example being found in honey, which consists of from 50% to 90% of Invert Sugar.

The principal forms in which "Glucose Sugars" occur as the result of commercial manufacture are: *Commercial Glucose,* also known as Corn Syrup, Starch Syrup, Liquid Glucose, Confectioners' Glucose, etc., and *Commercial Dextrose,* or Starch Sugar, Corn Sugar, etc.

Commercial Glucose: the form most widely used as a food product, is in this country made from Corn Starch (see articles on CORN and CORN SYRUP); in Europe, chiefly from potato starch, there being known also as *Potato Syrup.* It is a thick, syrupy, mildly sweet, nearly colorless product and, as employed, gives much the same effect as Invert Sugar formed from Sucrose. Its principal food uses are in the form of table syrup (see SYRUP), in the manufacture of jams, etc., and in confectionery. It is especially valuable in candy making. It is not nearly as sweet as Sucrose or ordinary sugar, but it has certain distinct and valuable qualities of its own—it does not readily crystallize, does not "grain" or disintegrate and possesses the property of imparting softness and elasticity to special varieties, such as caramels.

The principal ingredients of Commercial Glucose are Dextrose, Maltose and Dextrin. Dextrose has already been referred to. Maltose is one of the results of the action of acids or malt diastase on Starch—it is of special interest as being the form of sugar into which the starch of food is converted during the process of digestion. Dextrin, which resembles a gum more than a sugar (see DEXTRIN), is always found in connection with Maltose during the malting of grain, and in connection with Dextrose and Maltose in the manufacture of Commercial Glucose.

Commercial Dextrose is manufactured in a manner similar to Commercial Glucose, except that the product is evaporated to solidity (see CORN SUGAR). U. S. Standard Starch Sugar or Brewer's Sugar contains not less than 70% of Dextrose; Climax or 80% Starch Sugar, not less than 80%; and Anhydrous Starch Sugar, not less than 95%.

GLUE: is obtained from the hides and hoofs of oxen and a great variety of other animal refuse.

The raw material is first steeped for fourteen or fifteen days in milk of lime, then drained and dried by exposure to the air. This constitutes what is called the "cleansing" or "preparation"; and, after being so treated, the "glue stock," as it is called, may be kept for a long time and transported to any distance without suffering decomposition. Before conversion into glue, the "stock" is generally again steeped in weak milk of lime, and then well washed and exposed to the air for twenty-four to thirty hours. It goes next to copper boilers, two-thirds full of water and fitted with perforated false bottoms to prevent burning, each boiler being filled and piled up with it. Heat is then applied and the whole is gently boiled or simmered until the liquor on cooling shows firm, gelatinous consistence. The clear portion is next run off, a very small quantity of dissolved alum being added, into another vessel, where it is kept hot by a water bath, and allowed to remain for some hours to deposit its impurities, then being passed into the "congealing boxes" and allowed to cool.

The next morning, the cold gelatinous masses are turned out upon wet boards and cut horizontally into thin cakes with a stretched piece of brass wire, and then into

smaller cakes with a moistened flat knife. These small cakes are placed on nettings to dry and are later dipped one by one into hot water and slightly rubbed with a brush wetted with boiling water, to give them a gloss. Finally comes a stove-drying process and the glue is ready for market.

As soon as the liquor of the first boiling has drained off, the undissolved portion of the skins, etc., left in the copper is treated with fresh water, and the whole operation is repeated again and again as long as any gelatinous matter can be extracted—the product grading as second and lower qualities.

Fish glue is made from fish-sounds and other parts of fish membrane.

Liquid glue is made by dissolving dry glue and adding nitric acid in the proportion of one ounce to a pound, or by adding to it three times its weight of strong vinegar.

Light, clear glues are considered the best and are always preferred, irrespective of strength, for special purposes such as joining light woods, etc., where transparency is of paramount importance, but the only certain means of ascertaining the comparative strength of glue of any color is by a practical test.

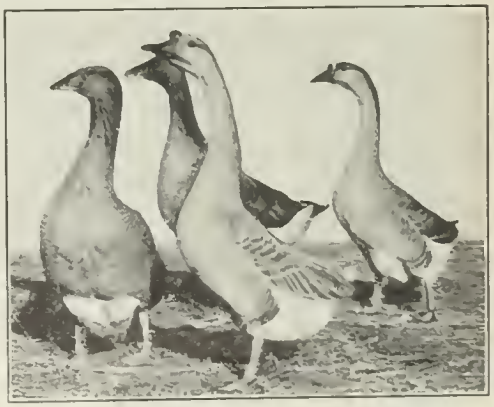
GLUTEN: the principal protein component of wheat and other grains, is composed of vegetable fibrin and a small quantity of gliadin. It is greyish in color and extensible, while fresh and moist, like caoutchouc. It may be separated from wheat or rye flour, etc., by making a paste and washing in successive waters until all starchy matter is removed. It is the large proportion of gliadin in the gluten of wheat flour that is responsible for its special tenacity and, consequently, peculiar excellence for bread making among people who prefer light bread and for macaroni, etc.

GOOBER, or *Guber*: the popular Southern name for the PEANUT (which see).

GOOD-WILL. In purchasing or selling a store, a good rule for estimating the value of the "fixtures" and "good-will" is to allow one-half to two-thirds of their original cost for fixtures, and to take the net profits of the previous year or six months as the value of the good-will. There should be a written agreement that the seller shall not enter into the same business within a certain limit of distance, or for a certain period.

It has been held that, by common law, when the territory so proscribed is reasonably limited in extent, its prohibition may be for life; when the time is limited to, say, five or ten years, the prohibition may be absolute for that period. Protection for five years in the city of location should be sufficient for an exclusively retail business.

GOOSE. Geese have been raised as pets or for the table as far back as history reaches and they are known and enjoyed to-day in every part of the world. They are, perhaps, the most popular in Germany, where they are eaten in a great many different forms—fresh cooked, smoked, salted, etc. Especially famous items are Smoked Pomeranian Goose Breast and Pökelgans—the latter being goose flesh, salted, stewed and preserved in fat.



African and Toulouse Geese

Goose fat is also highly regarded by many races. It is largely eaten in Germany in place

of butter—particularly by Hebrews, as its use on bread, for example, is permissible with meat, whereas it is a violation of the Talmudian law to eat butter and meat together. It is also valued there, and elsewhere, for many culinary operations.

In this country the most popular varieties of domestic geese are the Grey African and the Grey Wild Goose, which is "wild" only in name!

The *Grey African* is a large bird, the market weight of the adult gander often reaching fifteen pounds. It is distinguished by a large head with a black knob in front and a heavy dewlap under the throat. The knob is seen only in this and the Chinese varieties. Its legs are set so far back that it carries itself almost erect. The neck, breast and under-parts are of varying shades of light grey, and the back, wings and tail are dark grey. The Grey African is especially valuable for market purposes because of its rapid growth, making eight to ten pounds in about ten weeks.

The *Grey Wild* is a lighter bird. The head is black, with white on the sides, the bill and neck black, the neck shading to grey, the wings and back dark grey, the breast light grey, the under parts white and the tail feathers, shanks and toes black.

White Chinese Goose and Gander

Two other noteworthy varieties of large size are the Grey Toulouse and the White Embden.

The *Grey Toulouse,* of light grey plumage shading to white, and of compact shape, matures later than the others and is often called the "Christmas Goose" because it is ready for the markets at about the time the holidays begin. It is of convenient and compact shape, but the flesh is coarser and less palatable than that of the two preceding types. It is named after the city of Toulouse, France, where it is bred in large numbers.

The *White Embden,* with white plumage, blue eyes and orange-color bill, shanks and toes, offers a large square deep body with a round full breast.

Two of the best known of the smaller varieties are the *Brown* and *White Chinese Geese.* They are not favored by large growers, but are an excellent type for the farmer who devotes only a portion of his time to his poultry yard, as they are hardy, easily fattened and good layers. The plumage of the *White Chinese* is pure white on all parts, with knob and bill of orange-color and shank, toes and web of orange-yellow.

The *Colored Egyptian* or Nile Geese are the most beautiful of their race, but they are bred solely for ornament and therefore are entitled to no consideration among their more useful cousins which offer up their succulent goodness to the appetites surrounding the dinner table. Mixed grey and black predominate in their upper plumage, the breast shading to chestnut, the wings relieved by white epaulettes, and the tail feathers of glossy black. The under-bodies are light buff or yellow with black pencilings.

Geese under favorable conditions will live to a great age, but for table purposes one year is quite old enough! The age can be tested by the upper bill—if it will bend or curve in the middle, the bird is young. The firmer it is, the older the bird.

Young geese—variously known as "green geese" and "goslings"—are in season from July to November.

See also FOIE GRAS, made from goose livers.

Concord GRAPES Catawba

Wild Geese. The best known varieties of wild geese are the Canada and Brant.

The *Canada* is so much the most abundant variety that it quite generally carries the title of "Wild Goose" without respect to the other varieties which belong equally within the classification. It is also the largest, weighing from eight pounds upwards. The head and neck are black with a white band underneath, the back is of grey-brown, and the under parts vary from grey to white.

The *Brant* is a much smaller bird. The head, neck, upper breast and shoulders are blackish streaked with white, the back is of brownish-grey shading to white at the tail, and the under parts are ashy grey to white.

GOOSEBERRY (See *Color Page* of BERRIES and also accompanying half-tone illustration): a fruit of the same general family as the currant but much larger—attaining in general cultivation here to a diameter of three-fourths of an inch. The skin of the wild berry is hairy or prickly, but this characteristic has been reduced by cultivation to almost perfect smoothness or, at most, a few soft hairs. In this country, very little of the ripe fruit is consumed, but the green berries are popular in pies, etc. They also make good sauce because of their peculiar tartness.

Green gooseberries are very easily preserved. The best method is to cook them until the skins burst and then put them up in fruit jars, no sugar being used until shortly before serving. They can also be preserved for a considerable length of time without cooking—carefully sort out those bruised or otherwise damaged, then place the sound fruit in bottles until the latter are nearly full, fill with water so that all the berries are covered, cork well and store in a cool cellar.

English gooseberries show a greater variety of color—white, green, red, yellow, etc.—and average larger than the American, often reaching a full inch in diameter and

Gooseberries

an inch and a half in length, but the American are generally firmer and therefore better for preserving.

GORGONZOLA: a cheese of Roquefort style. See general article on CHEESE.

GOULASH or *Klulash*: a kind of meat stew which originated in Hungary and is now popular here, both as a restaurant item and in canned form for home use. It consists generally of beef garnished with potatoes, onions, paprika sauce, etc.

GOURD: a genus of plants which includes pumpkins, squashes, cucumbers, etc. In popular usage, the term is applied principally to the calabash from which water dippers are made, and the many non-edible but ornamental gourds of fancy gardening.

GRAHAM BREAD. See sub-head in general article on BREAD.

GRAHAM FLOUR: "unbolted" flour, containing part or all of the branny covering of the wheat. It takes its name from a Sylvester Graham, who first claimed for it great nutritive value.

GRAIN. (1) Any small, hard seed, such as a grain of corn or wheat, and hence taken to express the whole class of edible seeds. (2) Any small particle, as a grain of sand or a grain of sugar. (3) A measure of weight, the smallest used—1 lb. avoirdupois equals 7000 grains.

GRAM. See Metric System in Tables of *Weights and Measures* in APPENDIX.

GRANADILLA: the fruit of several varieties of the passion vine. The largest type, a native of tropical America, is an oval fruit, sometimes reaching a size of six inches in diameter, with a soft sweet-acid pulp.

GRAPES: the fruit of vines of many species, both American and European. They are largely consumed as a fresh fruit, expressed for grape juice, dried as "raisins" and made into wines, brandy, vinegar, etc. The fermented juice also gives CREAM OF TARTAR (which see).

The vines live to a great age under favorable circumstances, attaining, if permitted, enormous size—a single vine often giving an annual crop of several tons. The general rule is, though, to confine them to close and moderate growth of "bush" size.

The *juice* and *flesh* of the fruit contain from 12½% to 25% grape sugar, 1% to 3% of nitrogenous substances, some potassium and other salts and some tartaric, malic and citric acids; the *seeds* contain tannin, starchy matters, fat and oil; and the *skins*, tannin, cream of tartar and coloring matter. It is the combination in fermentation of the volatile substances in the grape which produces the *bouquet* of wines.

A huge California grape vine, supported by sixty posts and covering a third of an acre. It frequently produces 5,000 bunches a year, the bunches often weighing 6 to 8 lbs. each and measuring 12 to 14 inches in length.

Niagara GRAPES Delaware

The quantity of grapes now consumed annually for food is enormous, yet one need not be very old to remember when a bunch of grapes was a rarity in the city save upon the tables of the rich. How much has been done for American health, and thus indirectly for American civilization, by the cheapening and popularizing of the small fruits during the past thirty years, can hardly be estimated. Best of them all is the grape. It appeals to the aesthetic taste as well as to the palate; it is grateful to the eye as well as the stomach, and at four or five cents a pound is within the reach of the leanest purse.

In California alone more than 250,000 acres are under grape cultivation. About 125,000 acres are devoted exclusively to wine making. The product of another 100,000 acres is dried as raisins or made into brandy. The remaining 25,000 are devoted to table grapes, shipped principally to Eastern markets. The total investment in the industry in California is estimated at considerably more than $100,000,000.

Thousands of acres are also under grape cultivation in many other states, especially New Jersey, Western New York, Ohio, Missouri, Michigan and Wisconsin.

Grapes are the only fruit which is plentiful and cheap during times of extraordinary drouth. A wet season is what the grower fears. In dry weather, the vines bear abundantly and the fruit is large and well-flavored. In this country it reaches its highest perfection in parts of California, where not a cloud is seen in the sky from May till October, and many kinds unknown to Eastern vineyards are cultivated there from stocks brought from Europe.

GRAPE-GROWING UNDER GLASS.—The vine in the lower picture held eleven clusters with a total weight of 60 lbs. The two clusters shown weighed 7½ lbs. each.

There is not much variety in the East. The growers believe it most profitable to make no experiments, and confine their efforts to the standard types with which the public is familiar.

The four best known Eastern varieties are the Concord (black), Niagara (green), Delaware (reddish) and Catawba (reddish), illustrated in the *Color Pages* facing 270 and 274. Of these, the *Concord* is the most important from the standpoint of quantity consumed—its various types and offshoots constitute 70% or more of all the table grapes consumed in the East and are found to a greater or less extent in every part of the country. They are largely employed also in the manufacture of grape juice and wine of claret style.

The popularity of the Concord is due to its long season and all-round reliability. It is the first to appear on the fruit stands and it stays the longest. It seldom fails to give a good crop and the fruit is nearly always of good size and color and attractive bloom. The low price made possible by its abundance compensates in the general market for any inferiority in flavor and composition to choicer varieties. It should though be "turned over" as quickly as possible, as it does not keep well after ripening.

The *Niagara* is the best known American green grape. It is a showy berry of fair quality and low price, ripening soon after, or together with, the Concord.

The *Delaware*, reddish in color and the smallest of the four varieties, is a grape of especially fine quality—both for table purposes and high class wines. It comes into the market a little later than the first Concords. Its fine sweet aromatic flavor makes it a prime favorite in spite of its small size, but it is not a prolific bearer and its market price is generally double that of the Concord.

The *Catawba*, the latest in the market, is particularly interesting as a native American grape and equally esteemed for table purposes and wine making—especially of the finer types, as domestic "champagnes," etc. It takes its name from the Catawba River, N. C., its original home. The berry is medium in size, oval to roundish in

The stunted trunks of grape vines resulting from constant pruning to increase the crop

shape, of a dull purplish red with lilac bloom and of excellent flavor. It is, however, often picked when immature, before its best qualities have developed, and other grapes of similar appearance are too frequently sold under its name.

The Catawba is an especially good keeping variety, with care often being held for sale until March or even later.

The best known of the California products for table purposes are the *Muscat* or *Muscatel*, a large, sweet and fine flavored green or "white" grape, and several choice "black" grapes—among them, the *Hamburg*, *Gros Colman*, *Black Morocco*, *Tokay* and *Empress*—the berries generally large, varying in color from red to almost black and very "fancy" in appearance, the bunches occasionally weighing up to twelve pounds each.

The *Seedless*, or Thompson Seedless, a small slender green grape, is the variety sold dried as California Sultanas (see RAISINS).

The most important of Southern grapes is the *Scuppernong* (which see).

The imports of fresh grapes consist chiefly of the large meaty Spanish "white" berries commonly known as "*Malagas*," from Malaga, the principal port of shipment, and "*Almerias*," the latter being generally the larger and of finer flavor. They reach our markets during the Fall and Winter months, packed usually in cork dust in kegs weighing about forty pounds. Because of their firmness and excellent keeping qualities, they occupy an unique position in the trade. When unpacked, they should be carefully brushed with a soft brush to remove the cork dust.

The title "Malaga" is frequently but incorrectly applied to any large oval white grape.

There is also a smaller but regular importation of fine hothouse grapes from England and Belgium, principally of the *Muscat of Alexandria*, *Hamburg* and *Gros Colman* types. They are generally packed in boxes containing six to seven pounds each, the boxes strapped together in pairs—two boxes being known in commercial parlance as a "strap."

Fancy grapes can be kept in good condition for several weeks by wrapping each bunch in oil or tissue paper, encasing with cotton wool and tying each end, and keeping in a cool place. For shipment, the bunches are further packed in wood-wool in cases. More common varieties may be held without injury for from six to eight weeks by packing in dry sawdust in boxes and storing in a temperature averaging 38° to 40° Fahr.

See also AMERICAN WINES and general article on WINES.

GRAPE FRUIT, or **Pomelo**. (*Color Page opp.* 282). The Spaniards introduced the Pomelo into Florida, but recognition of its value was deferred for a long time, partly because its peculiarity of flavor was not at first acceptable to the American palate, and partly because of lack of care in its culture and poor judgment in marketing. Now, however, it has conquered the market completely, both North and South, and is to-day the prime favorite, though the highest-priced, of breakfast fruits.

A bunch of Grape Fruit

The species of the citrus family to which the Grape Fruit or "Pomelo" belongs, includes also the Shaddock,

which it supplanted in the general markets. The Pomelo obtained its present name of "Grape Fruit" because of the clustering, grape-like groups in which most varieties grow.

Going further back, the name Pomelo comes from the Dutch *Pompelmoes,* and Shaddock from Captain Shaddock, who first carried it into the West Indies. To the Shaddock belongs the variety known in Europe as the "Forbidden Fruit."

Grape Fruit is often misjudged because of a mistaken but rather widespread habit of eating it before it is ripe—it should be allowed to mature just as fully as any other fruit. Most varieties do not attain their full richness until December—and from then on, through April and even into May, they are generally found at their best.

The Grape Fruit does not contain as much citric acid as the lemon, but it is decidedly antiscorbutic, and possesses some of the bitter tonic quality of cinchona. To obtain its full medicinal value, it should be eaten without wine or sugar, but the addition of either, or both, makes it very delicious.

The present supply comes principally from Florida, California and the West Indies. Increasing quantities are imported each season from Porto Rico.

GRAPE JUICE. Pure grape juice is simply the expressed juice of the fruit, carefully filtered and promptly sterilized to prevent fermentation. Its principal components are grape sugar and small quantities of albuminoids, potassium tartrate and tartaric and other acids.

Grape juice can be easily made at home. Press the grapes, heat the juice to not under 170° Fahr. nor over 190° Fahr. in any form of a double boiler, settle for twenty-four hours, bottle carefully, and then heat the filled bottles by immersing them to their necks in hot water and gradually increasing the heat until they are nearly at the boiling point. Then cork and seal or paraffin the tops.

A Grape Fruit Tree

Careful filtration will improve the appearance of the product.

The color of the grape juice thus secured will nearly always be white or yellowish instead of the purplish red of the greater part of the commercial product, as there are only a few grapes which have pink or red juice. The red color can be obtained by pouring the hot juice, before the final immersion, into a receptable containing the skins of red grapes—almost any shade of red may be thus secured, according to the variety of grape used and the length of time the juice is allowed to remain on the skins. This process also adds other substances, chiefly tannin, to the product, the advantage or disadvantage of which depends upon individual tastes—the result more closely resembles ordinary sweet red wine, though it is still non-alcoholic.

As many people find grape juice too sweet, it is often better enjoyed when served diluted with water—either plain or carbonated.

GRAPE SEED OIL: closely resembles olive oil. It is used in Europe both for culinary and illuminating purposes.

GRAPE SYRUP: formerly a popular item, is grape juice evaporated to syrup consistence.

GRAPE SUGAR. See matter under general title of GLUCOSE.

GRAPPA: an Italian brandy.

GRAVES WINE. See BORDEAUX WINES (*White*).

GRAYLING: a Southern fresh-water fish of fine flavor, generally weighing from one to five pounds. It is in season from September 1 to January 30.

GRECQUE: a sieve or apparatus placed in coffee pots for holding the grounds. The term is also applied to a coffee-pot furnished with a Grecque.

GREEK WINES. Centuries ago, Greek wines were considered the finest in the world and they still hold a prominent place in the favor of European connoisseurs, but they are little known in this country. They are generally much stronger and heavier than French wines and some are treated with resin and flavored with spices.

Among the best known varieties are *St. Elie* (Santorin), of sherry style; *Mavrodaphne,* also light and delicate; *"Morea"* and *Camerite,* dry and red; *Nectar,* dark red, sweet and light; and a number of richer sweet types as *Malvasia* or *Malvasier* (Malmsey), red and gold; *Red Santorin,* one of the world's finest sweet red wines; *Hymettus,* white and ruby, resembling the Gironde wines; *Achaier,* in sherry and sweet-white-port types, and *Santo,* a syrupy spirituous "Muscat," white and purple.

On the Morean peninsula—especially the vicinity of Corinth, Nauplia and Patras—large quantities of red and white wines are made from the small seedless Corinth grapes when the weather conditions are unfavorable for drying the crop for export as "currants."

The term *Patras,* from the gulf of that name, is frequently employed as a general title for several varieties—among them a red wine resembling spirituous natural Port; a white wine, both still and sparkling, of Rhine Wine style; and several Muscats and Corinth Wines.

GREEN KERN: is dried green wheat. It is used chiefly for soups and in stews.

GREENGAGE: a famous variety of sweet plum (see PLUMS). It originated in France, where it is known as *Reine Claude,* from Claudia, Queen to Francis I. Its English title is after a clergyman named Gage who introduced it into England.

GREEN GOODS. A term sometimes employed to cover all fresh fruits and vegetables. See article on VEGETABLES.

GREENS: a general term for any leaves, either cultivated or wild, served as a cooked vegetable, as Spinach, Dandelion, etc.

GREEN SLOKE: a green-spored seaweed of the same type as LAVER (which see).

GREEN TURTLE: the most highly considered species of large TURTLE (which see).

GRENADIN SYRUP: the general title of Pomegranate Syrup. See FRUIT SYRUPS.

GRISKIN, of Pork: the loin, the choicest lean part of the hog.

GRISSINI: an Italian-style stick bread. See FINGER ROLLS.

GRITS: a name applied to any of several varieties of coarsely ground grain, such as Hominy Grits, Wheaten Grits, Oaten Grits, etc. They are generally consumed as a breakfast dish, but during the winter some families serve them for supper.

GROATS: the hulled grain, whole or broken, of wheat, oats, barley, etc. In the household, it is used for preparing gruel for invalids and sometimes for thickening broths and soups.

GROCER. Since the Grocer as we know him in America is directly descended from his English compeer, the early history of the latter may properly be considered as also belonging to the Western branch of this ancient trade.

Prior to the opening of the twelfth century, established shops for the sale and barter of commodities were little known in England. Pedlars, or chapmen, traveled from hamlet to hamlet with packs of fine cloth, jewels, wine, salt, spices, tallow and wax, but, as may be judged from their stock, the traffic of these men was confined almost entirely to the nobles of the castle and the priests of the monastery. Such necessary articles as salt and tallow were sold to the common people, but these pedlars found most of their profits in the sale of luxuries to the wealthy.

Later, as pedlars became more numerous, the Market was developed in town, while the Fair supplied the country districts with a means to sell and exchange goods. This latter institution served the double purpose of providing a place where goods that could not be obtained in the town markets were procurable and also a wider opportunity to dispose of ordinary commodities.

The shops of that fore-runner of the Grocer, the "Pepperer," or "Spicer," were undoubtedly established in London many years previous to 1180, as a mention of a Pepperers' Guild of London is found as early as that year. These tradesmen dealt in pepper, cloves, nutmegs, mace, ginger, frankincense and other spices then brought across Europe from remote India. Spiced drinks and richly spiced foods were greatly in vogue among people of wealth, as food at that early period was coarse and not always wholesome. This guild of Pepperers ceased to exist shortly after 1338, in which year a heavy loan was extorted from it by Edward II.

The earliest use of the word "Grocer," or "Groser," occurs in 1310 in the city record report of London. The term Grocer probably originated through certain mediaeval traders who "engrossed" large quantities of merchandise. It has also been attributed to the leading merchants of that time who bought only "in gross" (*en gros*), or in large quantities.

The fifteenth century in England finds nearly all of the various trades formed into guilds, and these guilds were in many cases provided with full authority to rule

GRAPE FRUIT

the affairs of their occupation. This power was received either directly from the King through a special charter, or, if in London, by a delegation from the Lord Mayor. Each trade was supposed to be responsible for, and preserve, its "good name and fame."

That greatest of all guilds, the Grocers' Company of London, was founded in 1345, and the history of this organization is to a large extent the history of the grocery trade in England for over four hundred years. In 1427 this guild was given the exclusive privilege of superintending the public weighing and such management of the King's Beam remained long with them. As far back as 1394 the Grocers were empowered to "garble" (inspect and cleanse) all groceries in the city of London. They were given the right to enter any store and inspect the merchant's stock and when these official garblers found goods that were impure or spoiled they had full authority to arrest, try and punish the offender. And punishment of offenders under the Pure Food Laws of that period, and later, did not always stop at a fine; it was often found more effective to place the guilty one in stocks and then burn his corrupt wares in such propinquity to his nose that the full offensiveness of his misdemeanor was made powerfully evident to him. The Grocers' Guild retained this office of garbling up to the end of the eighteenth century.

In 1562, during the reign of Queen Elizabeth, a statute was passed which prohibited any person from engaging in any craft or occupation unless he had served a seven year apprenticeship in the particular trade which he intended to enter. This law retained its power until about the middle of the eighteenth century.

From the early days of the guild down to the opening of the past century the Grocers appear to be the most prominent and influential of all trades-bodies in England. The great Levant trading company was an off-spring of the Grocer's Company, and in 1600 a number of the leading grocers of London formed the famed East Indian Company and were thus responsible to a large extent for the building of the Anglo-Indian empire.

From 1231 to 1898 no less than eighty grocers held the office of Lord Mayor of London and all but about fifteen of these eminent men were knighted, some of them on the field of battle. The annals of the English grocery trade are replete with names of notable Lord Mayors, magistrates, clergymen and soldiers. England has had a grocer Lord Chancellor and at least one of her national poets, Abraham Cowley, was a son of this ancient trade. And as evidence that great grocers are still being produced it is only necessary to skip to the twentieth century, and Sir Thomas Lipton. It was in the latter part of the sixteenth century that the now famous school of Rugby was founded by Lawrence Sheriff, the favored grocer of "Good Queen Bess." Many other prominent grocers of this period interested themselves in education with the result that numerous schools for both the poor and the prosperous were established. In the fifteenth century the grocery trade is described as the "trade of gentility," as the city companies drew many apprentices from the younger sons of the country gentry.

The famed pageantry of the sixteenth and seventeenth centuries was largely the work of the Grocers' guild. These pageants were often very costly and elaborate. Gorgeous floats were built, the best actors employed and on many occasions poets of national reputation were engaged to write the verse. Figs, dates, raisins and many other luxuries were thrown to the people by negro boys on the backs of "stage" camels. Such celebrations were usually given on the occasion of a grocer's election to the exalted office of Lord Mayor of London.

Until 1617 the grocery trade maintained full supervision over all drugs and other goods sold by apothecaries—in fact, the apothecaries were part of the Grocers' guild. The separation of these two trades in that year was the result of a long period of agitation on the part of the physicians and many dissatisfied members of the drug trade. The division was finally brought about by King James who was inimical to the Grocers' Company and a friend of the apothecaries.

The introduction into England, about 1650, of tea, coffee and chocolate resulted in a great impetus to the grocery trade. The demand for tea, and later for coffee, increased with remarkable rapidity and in a very few years these beverages—in spite of the denunciation with which they were first greeted by both the doctors and the clergy—became, with sugar and spices, the chief staples of the trade.

Owing to the failure of the National government to provide the kingdom with an adequate supply of small coinage, the grocers of England, from 1648 to 1679, and again for fifty years beginning in 1767, coined their own money, or tokens. This coinage was mostly in small denominations, though many of the larger companies made gold pieces. These pieces were given in change for the King's money, and as most of the grocers struck off their own coins one can readily imagine the merchant of those times preparing for a day's business by having his apprentices stamp out a quantity of small change. Many of these coins were highly artistic indicating that much pride was felt in their appearance by the issuing grocer, who in many instances had his likeness, a reproduction of his store front, or his own, or the Guild's, coat of arms stamped on the face.

It was in the latter part of the eighteenth century that the Grocer first began to advertise. The newspaper was quite extensively used by many merchants, while "trade cards" were popular with all grocers of the time. Besides the name, address and announcement that the issuer was a "tea dealer, grocer and cheesemonger," these cards usually bore illustrations of Chinese tea drinkers, and various other subjects of direct bearing upon the grocer and his stock. It is in the early years of this century that record is found of the practice of selling sugar at cost, and also at an actual loss, a fact that may be of interest to the modern grocer!

With the nineteenth century came many trade innovations that directly affected the Grocer. One of the first department stores was established in London in 1849 by Henry Harrod, a grocer. The multiple shop or chain of stores idea dates from 1885 and when first carried out brought much hardship to the small dealer, as even at the very beginning these large companies sold most staples at a loss. The first journal of the trade, "The Grocer," was established in London in 1862 and was immediately recognized as supplying a long felt want.

A recent estimate places the number of grocery stores in the United States at 141,600. And thus the Grocer, who was anciently a purveyor to the rich alone, has as the centuries passed, developed and expanded into the broader dignity of dispenser to all classes of the necessities as well as the luxuries of life.

GROUND CHERRY, also known as *Alkekengi, Husk Tomato, Strawberry Cherry, Strawberry Tomato,* and *Winter Cherry*: the fruit of a very productive plant which grows wild in many parts of the world—in this country, most freely in the cornfields of the lower Mississippi Valley—and has recently been added to the list of cultivated crops. It is about the size of a cherry, generally orange-yellow or red, but also sometimes green and purple in color, and juicy and slightly acid in flavor. It matures

inside a bladder-shaped calyx and, if left in the husk, can be kept through the winter. It is equally good raw and in the form of preserves.

GROUND NUT: another name for the PEANUT (which see).

GROUPER: a Southern fish found in three chief varieties—Black, Red and White. In weight it ranges from five to ten pounds, and even as high as twenty pounds, and in shape is a cross between a carp and a bass. The flesh is firm but coarse, and of only second quality. It is in season from November to March.

GROUSE. The title "Grouse" is applied to a large family of American game birds, the most important of which are the Ruffed Grouse, Prairie Chicken, Sharp-Tailed Grouse, Dusky Grouse, Black Heath Cock, Sage Grouse, Capercailze and Ptarmigan. In the East, custom generally reserves the title "grouse" for the Prairie Chicken and applies the name "(American) partridge" to the Ruffed Grouse. Both of these birds are shown on the *Color Page* facing page 260.

The market *"Grouse,"* or Prairie Chicken, the latter name due to its resemblance to the domestic hen, averages about 3½ lbs. a pair. Its upper plumage is brown with blackish and white markings, and the breast and under parts are whitish with brown and black marks.

The market *"Partridge,"* or Ruffed Grouse, also called "pheasant" in some parts of the country, takes its true name from the "ruffs" of feathers at each side of its head. It is the most prized member of the grouse family because, generally, the most delicate in meat and corresponds closely to the *Gelinotte* of Russia. It is larger than the English or Scotch Grouse. The plumage on the upper part of the bird is of chestnut varied with yellowish-brown, white, black and grey; the breast is buff-colored, the under parts whitish with brown marking, and the tail, long and of grey-brown or yellowish color. It feeds principally on fruits, herbs and seeds—to which diet is attributed the excellent flavor of its flesh. The average market weight is 2½ lbs. a pair.

The Canadian Ruffed Grouse is similar in general appearance except that grey instead of chestnut is the predominating color of the plumage.

The *Sharp-Tailed Grouse,* also called "Prairie Hen" in some parts of the country, is a little larger than the Prairie Chicken, of lighter color and with longer, more pointed tail.

The *Dusky Grouse,* also called "Blue Grouse," "Grey Grouse," "Wood Grouse," etc., has the upper plumage blackish-brown mixed with lighter brown and grey, and the under parts bluish-grey and white. It is also distinguished by its rounded tail of broad dark brown feathers. The adult attains a weight of two and a half to three and a half pounds. The flesh is exceptionally delicate and as white as that of a domestic hen.

The *Black Heath Cock,* or "Spruce Grouse" or "Canada Grouse," is a rather smaller bird than the Ruffed. The name "Spruce Grouse" refers to its favorite winter diet of spruce tree shoots. Its upper plumage is greyish, with shining rich bluish-black markings and its under side black and white. The tail is black, tipped with a reddish-yellow brown. The under part of the female is reddish-brown with black markings. The flesh is rather darker than that of the other varieties named.

The *Sage Grouse* is the largest American Game fowl, excepting the wild turkey, attaining occasionally a weight of eight pounds. It is distinguished by its grey back,

with darker markings, black breast and long tail. Its favorite diet is composed of the leaves and shoots of the sage brush, and when this is adhered to exclusively the result is an over-strong sage flavor in the flesh. Its food is, however, generally varied and its flesh consequently as pleasing and delicate as that of the more highly rated prairie chicken.

The *Capercailze* is a bird of large size and glossy black plumage. The hen is smaller than the cock and mottled in color.

The *Ptarmigan* is the extreme northern variety of the grouse family, making its habitat in Alaska and other parts of the Arctic regions. During the summer its plumage is generally grey and brown with black feathers in the tail, but the costume is changed for white with the approach of the winter snows.

The best known, largest and most abundant type is the White Ptarmigan, also called Willow Ptarmigan and Willow Grouse. The flesh of the young bird is white and delicate, but that of older specimens is generally rather dry and sometimes bitter when willow buds have formed too large a share of its diet.

The Rock Ptarmigan is a smaller variety. It has the same general appearance, but is distinguished by a black line from its bill to the eye.

The White Tailed Ptarmigan is an exceptionally handsome bird formerly slaughtered in great quantities to obtain its feathers for millinery purposes.

GRUEL: coarse meal or groats boiled with water to a proper consistence and strained. It is variously flavored to suit the palate, but the addition of a little white sugar and finely powdered Jamaica Ginger, with or without a glass of sherry, is the least likely to offend the stomach. Nutmegs, cinnamon, etc., frequently disagree with invalids. Milk or butter is also sometimes added.

GUANABANA: the West Indian name of the SOUR SOP (which see).

GRUYÈRE: the French form of "Swiss Cheese." See general article on CHEESE.

GUARANA, or *Brazilian Cocoa*: is prepared from the seeds of a climbing plant. When roasted and ground, the resultant flour is made into small rolls which resemble chocolate. The infused result is closely allied to Tea, as the seeds are rich in theine.

GUAVA (*see* TROPICAL FRUITS *facing page* 588) : the fruit of the guava tree, of which there are about one hundred species, growing abundantly in tropical America, Mexico and the West Indies. That of the cultivated varieties average about the size of a hen's egg or larger and is of many colors and shapes. It is almost equally delicious raw, cooked and canned; as jam, jelly, "cheese" and syrup.

The raw fruit is eaten with sugar and cream, the yellow-fleshed White Guava being generally preferred for dessert purposes. It is, though, very seldom for sale fresh except in the South as it is extremely perishable—when mature, it will not remain in good condition for more than three or four days, and it is not practicable to gather it green and ripen it afterwards as in the case of some other fruits.

The most common varieties for preserving are the red apple-shaped and the yellow pear-shaped. The former is usually rather small, but is of exceedingly fine flavor. Both are heavy bearers—under favorable conditions a single tree will produce annually several bushels of fruit.

Guava jelly is usually marketed in screw-capped glasses or in neatly wrapped white wooden boxes. The product generally rated the highest is that made in Florida from Brazilian fruit—it is firm, of choice flavor and brilliant color.

Guava cheese is the fruit reduced by boiling, the minor grades consisting principally of the pulp residue left after the extraction of the jelly. It is yellowish or reddish in color and of a glutinous texture. It should be solid enough to slice well and is most appropriately served with the cheese course. The best qualities are very fragrant and delicious.

Guava syrup is generally dark in color, thick in consistence and very rich.

Guava wine may be best described as a "lady's wine"—delicate in flavor, mildly sweet and generally of a golden amber hue.

Guava vinegar is sometimes prescribed for digestions that do not readily accept other vinegars.

GUILDS. The guilds so prominent in the early history of Europe, were societies organized for mutual aid in sickness, social amusement, religious purposes, trade regulation and protection, etc. They played a noteworthy part in ancient Greece and Rome but they attained their fullest development in Teutonic countries—especially in England—during the Middle Ages. The most influential of all were the Trade Guilds, which may be divided into the Guilds Merchant and the Craft Guilds. The former included merchants and land owners generally. The latter were confined to special trades or crafts and were most prominent in the larger cities, as in London. They exercised a general supervision over their respective trades and many of their rules and decisions have been perpetuated in modern statutes. The authority vested in the London Grocers' Guild, the "Grocers' Company of London," is described in the article on the GROCER (which see). Reference is there also made to the Levant Trading and East Indian Companies, to whose enterprise was largely due the great expansion of England's commerce and the foundation of her Eastern empire. Similar in aims and scope were the great Dutch Trading Guilds which carried their commercial ventures over the entire globe and still exist in China, Japan and the Pacific.

GUINEA FOWL. The guinea fowl, a native of Africa but now found in nearly every part of the world, is, compared with the "chicken," a new arrival in the poultry yard. It belongs to the same natural order, *Gallinae*, as the common domestic fowl. It was raised as a table bird by the ancient Romans, but later was apparently entirely overlooked, not coming into vogue again for centuries. It is not as thoroughly domesticated as some other kinds of poultry, but both supply and demand, particularly for high class trade, have been steadily increasing of late years. Its popularity is due both to the excellent quality of its flesh, especially in young and caponized birds, and to its slightly "gamey" taste, resembling somewhat that of the partridge. It serves as an acceptable substitute for game when that is unobtainable or out of season.

The "Pearl" guinea fowl, the most common poultry type, has purplish-grey plumage evenly dotted with white, the ears and sides of the head white, the helmet horn-colored, sometimes replaced by a crest of feathers, the face and neck bare, the

wattles bright red and the legs reddish-yellow. The "White" guinea fowl is another highly prized bird and some judges claim superiority for crosses between the "Pearl" and "White" varieties.

In general appearance the guinea fowl retains nearly all the characteristics of the wild bird, the only marked difference being the change of the legs from dull-grey or brown to reddish-yellow.

The birds are of marketable size commencing with the early autumn, the usual age being from five to eight months. A "Squab Guinea" should weigh from three-quarters of a pound up to one and a quarter pounds; a "Guinea Chick" from one and a half to two and a quarter pounds.

They are generally sold, like game birds, unplucked or with only the breast feathers removed, their handsome plumage making them conspicuously attractive. As their feather coats are very thick, this method also makes them appear larger than they really are.

The tests for age given in the article on POULTRY apply to the guinea fowl, except that a purplish breast is to be expected. The breast meat is lighter in color than that of other parts of the body, but the flesh throughout is darker than that of chicken. Good market birds should have full breasts and fleshy limbs.

The birds may be cooked and served in almost any way employed for poultry or game birds of similar age and size. The food value is about the same as that of chicken. Boiled cereals, such as "hominy," are an acceptable accompaniment in place of potatoes.

Many connoisseurs allow the guinea fowl to hang for some days until just before the moment of "turning" in order to accentuate the gamey flavor.

Guinea fowl eggs—rounder than hen's eggs and about half the size—are not generally appreciated by the American consumer, but they are highly esteemed in Europe, where they are classed as little inferior to the very delicate eggs of the plover.

GUINEA PEPPER: a name sometimes applied to Cayenne Pepper (see PEPPER).

GUINEA PIG: a small animal native to South America, best known in this country and Europe as a domesticated cage pet. The wild animal is generally orange and black on the upper parts, shading to yellowish underneath. Domesticated specimens are usually orange, black and white in marking. Those who have experimented with it as a table delicacy pronounce it "good eating," the flavor resembling 'possum.

GULL: a name popularly applied to a genus of natatorial or swimming birds which includes a great many varieties, the plumage of most of them white, with a slaty or greyish upper mantle. The most common American types are the Great Black Head Gull and the Herring Gull. Their fish diet renders their meat too rank and coarse to be generally popular, but their eggs are in some sections an important item of local consumption.

GUM: viscid matter exuded from various trees and plants, extensively used in the arts, medicines and manufactures—in the making of "gum" or mucilage, confectionery, etc. Among the principal varieties are Gum Arabic from the stems of the Acacia tree, GUM TRAGACANTH (which see) and Chicle (see CHEWING GUM).

DEXTRIN (which see) is used as a substitute in various lines of manufacture.

GUM SYRUP, or **Plain Syrup:** retailed in bottles for sweetening fruit and alcoholic beverages, is made by dissolving sugar in boiling water.

GUMBO. See OKRA. The title "Gumbo" is in the South also applied to a rich Creole soup of mixed vegetables, meats, herbs, poultry, shellfish, etc., which generally contains Okra as one of its ingredients, the compound title of each style bearing the name of the chief character ingredient, as Chicken Gumbo, Shrimp Gumbo, Okra Gumbo, etc.

GUMBO FILÉ: is any Gumbo Soup to which "Filé," the dried powdered young leaves and leaf buds of sassafras, is added just before taking the soup from the fire.

GUNNY BAGS. Gunny is coarse jute or hemp sacking, used for wrapping cotton bales, etc. The bags are employed for shipping raw sugar and similar commodities.

GUNPOWDER: is an explosive formed by a mechanical mixture of Saltpetre (*Nitrate of Potassium*), Charcoal and Sulphur or *Brimstone,* the proportion of these ingredients varying slightly with different manufacturers. With minor modifications, the best grades of modern make consist of 75% Saltpetre, 15% Charcoal and 10% Sulphur. It seems extraordinary but it is a fact that the earliest known formulas correspond closely to those of the standard powders of to-day.

It has been found difficult to obtain accurate information as to when Gunpowder was invented, or by whom. The combination of saltpetre with other substances for making fire-darts, Greek-fire, and other explosives resembling gunpowder, is said to have been known in the earliest ages, principally among the Far Eastern nations. The "Gentoo" laws supposed to have been formulated about the time of Moses, 1500 years before the Christian Era, refer to cannon and guns, in the use of which gunpowder or some explosive substance must have been used. History also relates that during the Macedonian conquest about 400 years B. C., King Philip used "field artillery." Some authorities credit the Chinese with being acquainted at a very early period with substances resembling gunpowder. It is doubtful though if gunpowder was used to any great extent before the introduction of firearms about 1320 A. D.

"Black" gunpowder has recently been superseded by smokeless powder to a great extent, but, because of its comparatively low cost, it is still largely used for shotgun ammunition and in rifles and pistols.

The three standard grain sizes are *Fg, FFg* and *FFFg,* from coarse to fine. For shotgun ammunition, *FFg* and *FFFg* are recommended, the finer size giving the greater velocity to the shot. *Fg* is suitable for rifle cartridges containing 40 grains or more to a charge; *FFg* for the smaller sizes of rifles. *FFFg* is the quickest, and is especially adapted for revolver and pistol cartridges, where all the power must be developed in a short barrel or cylinder.

Gunpowder is ordinarily packed in metal kegs, half-kegs and quarter-kegs, containing respectively 25, 12½ and 6¼ pounds avoirdupois, and in tin canisters containing one pound, one-half pound and one-quarter pound. Some manufacturers are also using a paper "Keg" holding one pound of powder—this style of packing making an attractive and handy container.

The oldest gunpowder manufacturer in the United States is the Du Pont Company of Wilmington, Delaware, which was established in 1802. Its mills have

continuously supplied the United States Government with explosives since that date, besides furnishing sportsmen with a standard article for their enjoyment.

Only limited quantities of gunpowder packed in kegs or canisters may be stored on the premises. Insurance companies generally allow 25 pounds to be stored without additional premium. In some states a special license is required before it can be handled. The restrictions on the carrying, selling and shipping of the commodity, have caused the majority of dealers to meet the demands of their customers with loaded shot shells and metallic ammunition for rifles and pistols. Ammunition of this character may be carried in stock in any quantity without affecting insurance and without special license.

Smokeless Gunpowder, is manufactured in two principal classes, "bulk" and "dense." *Bulk* powder gives equal strength to an equal bulk of Black or common gunpowder, the weight though being only about one-half. *Dense* is so manufactured that it occupies only about one-third the space of its equivalent in black gunpowder. The respective merits of these two types is a matter of individual opinion, each having its adherents. The up-to-date manufacturer produces both varieties and the shooter takes his choice.

Smokeless gunpowders of both types are manufactured for use in shotguns, rifles and pistols. It must be borne in mind, however, that those designated for shotguns must not be used in rifles, and vice versa.

In composition, the various smokeless powders differ but slightly, the *bulk* type being chiefly made from a mixture of nitro-cellulose and metallic salts with a moderating agent, while the *dense* powders are generally composed of nitro-glycerin and nitro-cellulose.

Like black powders, smokeless gunpowder is packed in kegs, fractions of kegs, and canisters.

As in other lines of merchandise, unscrupulous powder manufacturers are constantly offering inferior products to the unsuspecting public. It is wiser to stock only regular and reliable brands than to risk life and property by purchasing unknown and unstable powders.

HACKBERRY or *Sugarberry*: the fruit of the Nettle Tree. It is of pleasing sweetness and aromatic flavor, and, like the American persimmon, is at its best after it has been touched by frost.

HADDOCK (*See Color Page facing* 250): a silvery-grey sea fish, varying from one and a half to seven pounds in weight, of the same genus as the cod and very plentiful in the North Atlantic, off both the American and European coasts. It is in season all the year. "Deep sea" catches are generally considered the best. Large quantities are cured by drying, smoking and salting. Smoked Haddock is best known as "Finnan haddie" (which see).

HAGGIS: a national Scotch dish which consists of a well cleaned sheep stomach filled with the minced, blanched and cooked sheep's heart, liver, lungs, etc., mixed with oatmeal, onions, beef suet, herbs, etc., cooked from two to three hours before serving.

Haggis is now sold in can form, for this purpose being cooked first in well buttered molds instead of in the stomach.

(1) Virginia Ham
(3) Boned Shoulder

(2) Bacon
(4) Westphalia Ham

HAKE (*see Color Page facing* 250) : a fish of the cod tribe, plentiful along the coasts of Europe and eastern North America, large specimens attaining a length of four feet. The meat is coarse, flaky and white. It is consumed both fresh and salted in the same way as cod, but is considered less choice.

HALIBUT (*see Color Page facing* 250) : a large flat-fish, longer than the flounder, covered with scales and showing brown above and white on its under side. It is very abundant on most northern coasts from Norway to the United States, and is often of great size—some specimens have weighed five hundred pounds. It is in season all the year and is largely eaten both fresh—generally broiled in the form of steak—and cured by salting and smoking. In England it is known as the "workhouse turbot" because of its cheapness.

"Chicken Halibut," much the best eating, is the young fish, averaging two to ten pounds in weight.

Halibut is often substituted for turbot. It can, however, be readily distinguished in the whole fish as the turbot has spots on the back and the halibut has not. The turbot is also much wider for its length than the halibut.

HAMS (*see* SMOKED MEATS *facing page* 292) : are the hind legs of the pig, above the hock joint. They are generally sold salted and smoked, but also salted only, being then used generally for boiling, and fresh-boiled, in the last-named condition chiefly for retailing in slices or by the pound as "Pork Steak," "fresh pork," etc.

The curing process in the best qualities consists substantially of trimming, chilling, immersing for from forty to sixty days in a brine composed of table salt, granulated sugar and a trace of saltpetre (the last-named to fix the color), washing, drying by hanging in steam-heated apartments and smoking, the hams remaining in the smoke-house at a moderate temperature for about three days. Hickory wood or mahogany sawdust are considered the best for smoking, but other woods are occasionally employed, as for example, Juniper Brush in Germany for Westphalia Ham, to impart a distinctive flavor. The final step is wrapping the hams and sewing into canvas or burlap bags.

In the manufacture of the cheaper qualities, the salting is more speedily performed by "pumping" the brine into the ham. The time allowed for smoking is also considerably reduced, a higher degree of heat being maintained in the smoke-house.

A *Skinned Ham* is a large ham with the skin and fat cut off down to the shank. It is purchased principally by retailers who wish to sell it in small quantities.

A *Boneless Ham* is a cured ham, soaked, boned, the fat trimmed off and tied in a cloth and boiled for several hours.

An *American Short Cut Ham* is one cut short so as to expose the marrow, and well rounded on the butt, most of the fat being taken off the face down to the shank.

A *Long Ham* is cut from the side by separating the hip bone from the rump, the foot unjointed at the joint of the knee.

A *Manchester Ham* is the same as a Long Cut Ham, except that it is cut shorter on the butt.

A *Stafford Ham* is the same as a Manchester, except that the hip bone is taken out at the socket, thus exposing the knuckle.

What was formerly known as a "Picnic" or "California" ham is the shoulder with from five to eight pounds of the butt trimmed off.

As ham, like all other cured pork, loses considerably in weight by the natural evaporation of moisture and grease, it is advisable for the retailer to purchase only in small quantities so as to make as quick a turnover as possible. Some hams, as Virginia, are sold by their first weight as stamped on the canvas, irrespective of loss in weight while being held. They should always be kept in a cool dry place—never exposed to the sun in window displays, etc.

Among the best known of imported hams are: Westmoreland and York (English); Westphalia (Germany); Bayonne (France); Sprague (Hungary) and Spanish.

In purchasing a ham, it is best to choose one that is moderately fat and that weighs from twelve to sixteen pounds.

Fat is essential to a good ham—if it is lean, it is nearly always lacking in flavor and tenderness. The famous Virginia hams from lean Virginia hogs are exceptions to this rule, but their delicacy is attributed to the animals' forest diet of roots and acorns and other nuts.

A ham much under the weight mentioned is generally lacking in flavor, as the meat is ordinarily too immature. It can be used for boiling, but it is not even for that as desirable as a part or whole of a larger ham. On the other hand, if the ham is very large, the muscle is liable to be a little tough.

For the average small household, the best way of using a ham is to reserve the center for broiling and frying in slices, and to boil the remainder.

Sliced ham should never be cut more than one-quarter of an inch thick—one-sixth of an inch is still better. It is not necessary to saw through the bone—with a sharp knife, cut clean to the bone and divide the slices in the center. The broiling or frying should be done over a hot fire, but it should not be sufficiently fierce to scorch the meat. It should always be eaten fresh cooked, as broiled or fried ham will speedily toughen.

To properly boil ham, first brush it off thoroughly to remove every particle of mold, soak for an hour in cold water and then wash thoroughly. Next, with a very sharp knife, shave off the hardened surface from both the face and butt. Place over the fire in cold water, let it come to a moderate boil and keep it steadily at that point, allowing it to cook twenty minutes for each pound of meat, replenishing the supply of water as fast as it boils away. When cooked, remove the skin—it will easily peel off if it has been properly boiled—and dish with the fat side up. The service is improved by dredging black pepper in spots on the upside, sticking in a few whole cloves and garnishing with parsley.

A roasted ham is merely a boiled ham nicely browned in a hot oven. It can be rendered more appetizing in appearance by spreading egg-moistened bread crumbs or cracker dust over the fat side before putting in the oven. The ham should rest in a pan with a wire bottom, or, if that is not possible, should be so blocked that the flesh does not rest on the pan.

HARD TACK, *Ship Biscuit, Pilot Bread*: large hard biscuits of plain dough, kiln-dried. They are prepared principally for army and navy commissaries, but in some places there is a steady private demand for them, the broken biscuit being relished when added to soups and stews.

HARE: a class name for a large family of small game animals, including all of the *Leporidae* except the rabbit. There are from thirty to forty different varieties,

including the "Common Hare," Polar Hare, Marsh Hare, Mountain Hare, etc., a number of them native to North America.

The hare is generally bigger than the rabbit, with longer ears and feet and wider muzzle. The common European type averages larger than the American and has still longer ears, feet and hind legs. Some varieties of the hare and rabbit are very similar in appearance, but the division is a natural one and the two types can always be distinguished by their young—those of the hare are born highly developed with full coats of fur and their eyes open; those of the rabbit are born blind, naked and helpless.

The most common type of American hare is known in many sections as the "Jack-rabbit." It has always been a more or less popular article of game food, eaten fresh, but it is not as a rule sufficiently plentiful to encourage commercial packing.

The *Belgian Hare* is a large variety of RABBIT (which see).

The points given for the selection of rabbits apply equally to hares.

HARICOTS FLAGEOLETS. See FLAGEOLETS.

HARICOTS VERTS: young string beans bottled or canned, imported from France.

HASLETS: the liver, lungs, heart, etc., of food animals, especially of swine and sheep.

HAWS: the fruit of the Hawthorn, known under various names and found in numerous varieties all over the world—the English "May," the Summer Haw or Yellow Thorn, etc. The berries—yellow, orange, purple or red in color—are more useful than is generally known. They vary in size and flavor, but there are a number which make a pleasing breakfast or dessert fruit, and as such are popular in the south of Europe. They are also used in the manufacture of Hawthorn Liquor, an intoxicant, and cooked for various pastry and dessert items.

In some parts of the United States the term "haw" is applied to the SLOE.

HAZEL NUTS. See matter under title of FILBERTS.

HEAD. The most generally desirable head for home cooking is that of the calf, but lamb's and pig's are also popular. With the exception of those from black sheep, they should be thick and white.

HEAD CHEESE, or *Brawn*: pickled meat trimmings, principally of pig meat, variously spiced and flavored, retailed in bulk, canned (then generally encased in jelly) and in large sausage casings (see SAUSAGES).

HEART. Beef heart is an economical and pleasing dish if properly prepared. In purchasing, see that the fat around the top is clear and lively in appearance. Calf's heart is smaller but more tender and delicate in flavor. Lamb's heart is generally sold with the lights.

HEMP: the inner fibre of several plants, the various grades being used in the manufacture of cordage, sheeting, etc. The most widely cultivated are the numerous varieties of the *Cannabis Sativa*, an annual of the nettle family which attains an average height of from four to eight feet, grown chiefly in India, Russia, Argentine, and

the United States. *Manila Hemp* is the fibre of a plant of the banana family, grown almost exclusively in the Philippine Islands. The finest grades are made into shawls and the coarser into ropes, etc.

Hemp Seed: as it concerns the retailer, is best known as a food for canaries and other cage birds.

Hemp Seed Oil: is a green oil extensively employed in Holland in the manufacture of soft soap. In Russia, it is used for food purposes by all classes.

HERBS. A great variety of plants belong under this heading and their uses are very numerous—(1) as vegetables, (2) for flavoring soaps, sauces and pickles, (3) to make herb or medicinal teas, etc. Those used principally as vegetables are frequently termed *Pot Herbs,* or are designated by the still wider title of "greens." Those employed chiefly for flavoring purposes—the varieties particularly considered in this article—are generally known as *Sweet Herbs.* Among the most popular types are Basil, Bay-leaf, Chervil, Dill, Marjoram, Mint, Parsley, Sage, Savory, Tarragon and Thyme. All of these, and a number of others of less common use, are described in their alphabetical positions. A "bouquet" or "faggot" of herbs is a bunch tied together for ready sale.

Dried Sweet and Medicinal Herbs, both whole and ground, are largely prepared by such farming communities as the Shakers. They are sold chiefly in cans or packages, in the latter case being first pressed into cakes of various sizes, principally 1-oz. and ½-lb. and then securely wrapped. They should be kept in a dry place as they readily absorb moisture and become moldy.

HERMETICAL SEALING: the closing and sealing of a can or other vessel so as to render impossible the admission of air.

HERMITAGE: the wine produced in the hilly Hermitage district bordering on the river Rhone, north of Valence, France. The name is taken from a hermit's cell or *hermitage* built on the summit of a hill near Tain in 1225 by Gaspard de Sterimberg, until then a chevalier of the French court. The section is divided into twelve districts known as *Mas,* the most noted of which is the *Mas de Greffieux,* at the foot of the hills. Next in order are the *Mas de Méal, Mas de Bessar,* and *Mas de Baumes.* The wines are generally known by the names of the districts—Mas Méal, etc.—but the true Hermitage wine which first made its reputation is a blending of the grapes or wine of the first three—Greffieux, Méal and Bessar.

The product of the other eight districts—Cocoules, Murets, Dionnières, l'Ermite, Péléat, la Pierrelle, du Colombier and Varognes—is generally considered of comparatively inferior quality.

The best known Hermitage is the "red" which is a rich deep purple, soft and delicate in flavor and of fine bouquet, suggesting the raspberry. The white wine of the best grades is also very choice—full bodied, smooth and aromatic.

HERRING. There are several species of this favorite and much used fish, the chief being the *Clupea Harengus* of Northern Europe and America and the *Clupea Mirabilis* of the Pacific Coast of the United States. The principal American fisheries are

located along the New England coasts and in British-American waters. In Europe, the main herring grounds are those of Great Britain, Ireland, Scandinavia, the Netherlands and the North of France. The domestic catch is supplemented by the annual importation of from fifty to seventy million pounds of pickled or salted herring, chiefly from Holland, Great Britain, Norway and Canada.

The fish are usually caught in gill nets or scoop nets, the yearly harvest amounting to many hundreds of millions. The average size is from eleven to fourteen inches. The principal season in the eastern market is from October 1 to April 30. On the North American coast in the winter, the catch is frozen solid and thus easily shipped fresh to the markets for packing.

When recently caught and cooked by boiling or broiling, herring are both wholesome and agreeable for consumption fresh, but the principal demand here is for the smoked or pickled fish, as the fresh herring if fried, or if kept long, becomes strong and oily and is apt to offend the stomach. The best grades of the cured fish are on the other hand highly esteemed as a relish, and salted herring is credited with diuretic properties by many physicians—perhaps because of the free quaffing of water or other liquids which generally follows its consumption.

Bismarck herring is the whole fish put up in a pickle flavored with spices, pieces of red pepper, onions, etc.

Bloaters (which see) are half-cured whole herrings.

Boneless herring, other than that in cans or jars, is the dry cured fish ready prepared for the broiler. It comes packed in boxes with glass tops and is a quick-selling article in a grocer's stock.

Kippered herring is the fish split, salted and mild-smoked.

Milchner herring is the pickled soft-roe fish, the roe being converted into a sauce by rubbing through a sieve.

Red herring is English herring salted and smoked. The title is of English origin, distinguishing the smoked fish from the "white" herring, preserved by salting only.

Soused herring is another title for *Pickled herring.*

More fancy types include "*Delicatess*" or *Filet* (filleted) *Herring* in Wine Sauce or in Oil; *Roll Mopse* (pickled rolled fillets); small fish in Tomato Sauce, etc.

As an article of food, herrings are of vast importance to a large proportion of the population of Europe and the preparation of the cured fish furnishes employment for thousands.

The Dutch herring fishery is conducted by steam and sailing vessels, which use tanned cotton gill nets, 360 meshes deep and 720 meshes long, the mesh being two-inches stretch. They are set about six feet below the surface, being held in position by leads and corks. From 80 to 150 nets are carried on each vessel. A thousand barrels are often taken at one haul of the seine.

An instantaneous photograph of a few members of a "school" of herrings

The fish are dressed and salted immediately after the nets are hauled on to the vessel—this point is considered of great importance.

The Dutch fisherman, when dressing herring, is equipped with a short knife, attached to the fourth and fifth fingers of his right hand by a string tied to the handle. He takes the fish in the left hand, with the belly up and the head forward, and thrusts the knife crosswise directly through the gill cavities, entering the left side and emerging from the right. The knife, with edge turned upward or outward, is then pulled directly through the tissues, cutting and tearing away the gills. There is little apparent effort made to remove anything except the gills and pectorals as the other organs come away incidentally. The men become very expert in cutting—some of them can handle an average of twelve hundred fish an hour.

The removal of the gills and heart results in opening the large blood vessels and free bleeding ensues, leaving the flesh pale or "white."

The fish are next rolled in salt and then carefully packed in barrels in straight rows, backs down, each layer at right angles to those above and below and with salt between layers, a barrel of salt being required for each four barrels of fish. The barrels are finally headed up and stored in the hold until the end of the fishing trip. On reaching port, the catch is unloaded and sold at auction.

The shore buyer generally repacks the fish in order to sort them by size and grades of quality, no sorting being attempted on the vessels. Some purchasers or agents

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Thousands of kegs of Scotch herring, ready to ship, Aberdeen, Scotland

prefer the sea-packed, unsorted fish, but as a rule dealers or jobbers wish to know how many fish are in a barrel and what their quality is.

For repacking, the herring are first emptied into large vats or tanks, the original brine, called "blood brine" or "blood pickle," being carefully saved and poured back after re-barreling. Fresh salt is added in the proportion of one barrel to eight.

Dutch herring barrels, in which the bulk of the catch is marketed, contain about one hundred and twenty-five kilograms (about 275 pounds) of fish. Smaller receptacles—one-half, one-quarter, one-third, one-sixteenth and one-thirty-second barrels—are also used, but are in less demand than formerly.

In Holland there is no official regulation for packing or branding, but the packers have a standard which is generally observed, as it is to their interest to have the fish properly packed and labeled.

Both Dutch and Scotch herring are graded according to the spawning condition of the fish. Ripe or full herring are branded "Full" or *Vol;* those in which the roe is undeveloped, as "Matties" or *Maatjis*, and the spent herring as "Shotten" or *Ijlen*, (or *Ij* or *Ijle*). There are several qualities of each of these classes, designated No. 1, No. 2, etc., and also numerous other grades, as "Mixed" or unassorted, etc.

HICKORY NUT (*see Color Page opposite* 414). There is an almost innumerable variety of hickory nuts, but all the types of noteworthy food value can be classified under the name of Pecans, Thick Shell Shagbarks, or "Western Hickory," and Thin Shell Shagbarks. *Pecans* are treated under a separate heading. Of the other two classes, the *Thin-shell* are considered the more desirable, the meat being whiter as well as more easily obtainable. The *Thick-shell* or Western Hickory often though bears very large nuts—frequently to a length of two inches.

The hickory-tree is a species of the walnut family and is found only in the United States.

HOARHOUND, or Horehound: a bushy plant of the mint family native to the south of Europe and Eastern countries, growing about a foot high, and with round, wrinkled, almost hairy ("hoary") leaves, which contain a bitter principle and volatile oil of aromatic but not very agreeable smell. It is used as a flavor for candy and also in medicinal syrups for its curative properties for coughs and other affections.

Hoarhound

HOCK. See Rhine and Moselle Wines.

HOE CAKE: originally a plain cornmeal cake, so named because the old-time plantation "mammy" ofteu cooked it on a hoe on hot embers in front of the wood fire. The term is now applied also to a richer "biscuit bread" of cornmeal, baked either on a griddle or in an oven.

HOG AND HOMINY: a recent addition to the list of canned goods. The title given was formerly employed in slang phraseology to describe the diet of some country sections of the United States.

HOGSHEAD. See table of *Weights and Measures* in Appendix.

HOKEY-POKEY, the Italian *Occhi-Pocchi*: (1) a term applied to mixed colors and flavors of ice cream, in cake forms, (2) an inferior grade of ice cream sold by peddlers.

HOLLANDS. A term applied to Holland Gin (see article on GIN).

HOMINY or *Granulated Hominy* or *Grits*: is, essentially, white Indian Corn kernels with the rough fibrous part removed, broken into particles of uniform size. It is similar to Granulated Cornmeal, but considerably coarser.

A grade of Grits, somewhat lower than that handled by the grocery trade for table purposes, is used in large quantities by brewers.

Pearl Hominy is a larger size Hominy. It is also known as *Samp, Coarse Hominy* and *Coarse Grits.*

Hominy is prepared for use by boiling with water or milk. The larger sizes are eaten as a dinner vegetable, the finer product as a breakfast dish. When boiling for frying, always add some flour just before finishing as that will prevent it from breaking and splitting when fried.

HONEY: is the sucrose secreted by the glands of flowers, extracted by the proboscides of the working bees and inverted in their crops or honey bags into Invert Sugar or Dextrose and Levulose sugars (see article on GLUCOSE). At the hive, the bee disgorges his burden into the cells of the comb as a reserve supply of food for the colony. As thus at first deposited the honey is a thin liquid—it attains its later syrupy consistence by evaporation.

Taking a swarm of bees from a tree

A hive of fifty to seventy-five thousand bees will yield an average of about one pound of honey daily during the season, the quantity rising to two to three pounds a day at the height of the season. If left to their own devices, the bees begin their annual work by building the combs, the process taking about half their time. After many failures, bee-keepers have found that they can supply thin transparent layers of pure wax stamped into foundations for the cells in such a way as to be acceptable to the bees, who complete the cell portion much more quickly and proceed sooner to actual honey gathering. Man can make more foundation in a minute than the bees in a dozen hives could draw out all summer.

Comb Honey is that straight from the hives. The little square or oblong frames familiar to the consumer are fitted with the comb foundation referred to, and then placed in the hives for the bees to work in. The bees not only make the honey we eat, but also put it up in packages for us!

Virgin Honey is that which flows spontaneously from the combs. The term was formerly applied to that made by the younger bees before swarming.

HONEY

Strained Honey is that extracted from the combs, generally by centrifugal process —the rapid revolving of the combs inside mesh-cylinders causing the honey to exude. If the honey has been allowed to ripen sufficiently in the hives, or is properly evaporated after extraction, "strained honey" compares favorably in flavor and quality with Comb Honey.

Candied Honey, as marketed, is strained honey evaporated to solidity. It is a confection classed with Maple Sugar, etc.

Ninety per cent. of the honey consumed is sent to market extracted or "strained." It is shipped in cans which hold five gallons, or sixty pounds, two cans making a case.

Comb Honey and the better grades of Strained Honey, are sold for table use, while dark and coarse honey is used by bakers, confectioners, cracker makers and druggists. Hundreds of tons are annually consumed in the manufacture of sweet biscuits, as it has the peculiar quality of keeping them fresh and moist. The famous "Honey Bread" of Germany and France, *lebkuchen, pain d'épice*, will keep a year or eighteen months without drying out.

Honey has been employed as food from the remotest times. In moderation it is nutritious and laxative, though some dyspeptic persons find that it aggravates their symptoms. Its composition varies according to the food of the bees, their age, the season, etc. The invert sugar (dextrose and levulose) ranges from 60% to 90%; sucrose (corresponding to "ordinary" sugar) from nothing to 10%. It was formerly adulterated to a considerable extent by the addition of commercial invert sugar and commercial glucose, but the presence of either of these adulterants is easily ascertained on analysis, and the enforcement of Federal and State Food Laws has practically eliminated the fraud.

The flavors of honey before blending vary as much as, or more than, those of fruits. Mountain Sage is very mild; Buckwheat is so strong as to be almost biting to the palate; Basswood has a pronounced mint taste; White Clover is milder than Basswood and stronger than Mountain Sage; Alfalfa resembles White Clover, with usually a slight mint taste. The wild honey of Cuba, Mexico, etc., is generally highly aromatic.

The comparative merits of honey flavors is largely a matter of individual taste. In the East, to describe any honey as "equal to White Clover" is to style it as equal to the very finest, yet many judges and all Western consumers consider Alfalfa superior to White Clover.

Other points for judgment are color and density. In this country, light colored or "white" honey is generally considered the best, but the rule does not hold good everywhere as the famous Scotch "Heather Honey" is as dark in color as our Buckwheat—which is in most sections rated as a decidedly inferior product.

The greater part of our present supply consists of Alfalfa Honey, from the alfalfa regions of the Western States, where bee-keeping is conducted on a large scale, the product amounting to an annual value of several million dollars.

Southern California honey comes chiefly from Sage and Sumach blossoms, excepting in the San Joaquin Valley, where the bee-keepers depend principally upon the Alfalfa flower. Texas furnishes large quantities of Mesquite, Guajilla (pronounced *wah-he-lia*), Catclaw and Horsemint honey; the Eastern States, north of the Ohio River and east of the Mississippi, principally Clover and Basswood, and the States south of the Ohio, Tupelo, Mangrove and a good deal of Clover.

In all of the honey States, white honey is produced in greater or less quantities, but it is usually mixed with other honeys, so the flavor cannot be distinguished. In Utah, Colorado and parts of Nevada and Idaho we get a pure White Clover without any other flavor being added, but only a few carloads are produced.

England and Northern Europe generally, produce a honey similar to the Scotch Heather, but of lesser quality. Narbonne Honey, from the vicinity of Narbonne, France, is similar to our White Clover. Rosemary Honey is also very popular in Southern Europe, and the famed honey of Mt. Hymettus, Greece, is from Wild Thyme. "Poisonous Honey" is found near Trebizond, in Asia, its toxic effects being due to the bees having collected it from a poisonous plant.

Honey should always be stored where it is dry and warm—almost hot. It will not be too warm with the temperature at 100° Fahr. If one is fortunate enough to have a dry warm garret next to the roof, no better place for storing it can be found. Where salt will keep dry, honey is safe.

A cellar is one of the very worst places that can be found for storing honey. There are few cellars in which the air is not somewhat damp, and honey attracts moisture very readily. Strained Honey will become thin and will often ferment. Comb Honey will lose all of its attractiveness—the beautiful white surface becomes watery and darkened and drops of water gather on the cappings and run over the surface.

If honey, particularly Strained Honey, is kept for a great length of time, especially during cold weather, it is apt to change from its original liquid or semi-liquid consistence to a semi-granular condition. It is then called "granulated" or "candied" honey, and the flavor is somewhat changed. Some people prefer it in this condition, but it is not, as a rule, so readily salable. The tendency to "candy" is, however, fairly good proof of purity.

Honey Bread. See general article on BREAD.

Honey Cakes. See LEBKUCHEN.

Honey Mead. See MEAD.

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A pole of choice Hops, Oregon

HOPS. The hop plant is a climber found wild in America, Europe and Asia. It has been cultivated in Germany since the ninth century and is now also an important crop in the United States, the chief producing sections being New York and the Pacific Coast states. It is famous for the property of its blossoms in preserving beer from bacterial action, while also imparting to it an agreeably bitter taste, and it is medicinally valuable as a sedative and narcotic, whether taken internally or applied externally in the form of pillows, fomentations, etc. The ancients ate the young hop shoots as we do asparagus, and this custom is still prevalent in parts of England and Germany.

The roots of the vine are perennial, the top only dying in the winter. The vines, which twine with the sun, from right to left, are now generally trained on drop-wires or strings or on wire trellis work, the old-style poles being employed in comparatively few sections. The blossoms are harvested in the latter part of August and the

beginning of September. They are cured and kiln dried and then baled.

In the choice of hops, care should be taken to select those which are full of *lupulin* (the essential principle), free from mold, and bright and silky in appearance—that are the most powerfully odorous, and the most free from leaves, stems, scaly fragments and sticks, and which, when rubbed between the hands, impart, in the greatest degree, a yellowish tint and glutinous feeling to the skin. It is best also to select those which are tightly packed, as, unless they are very firmly pressed together and quite solid, they soon spoil in keeping.

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Weighing Hops

HOREHOUND. See HOARHOUND.

HORSE RADISH: a plant allied to the nasturtium or cress family, naturalized in many temperate countries. It is grown for its white, fleshy, very pungent roots, which are generally grated and mixed with vinegar for use as a condiment with oysters, meat, etc.

Horse Radish

Grated Horse Radish is best when freshest—if exposed to heat and air, it rapidly loses its pungent characteristics. Jars and bottles in which it is put up should be hermetically sealed. When used without vinegar, it is best grated just before serving.

Horse Radish Sauce is made by placing the sliced root in a bottle or similar receptacle and covering with alcohol. The sauce can be used without any other addition than a little fresh mustard and a little red pepper, or may be added drop by drop to any white sauce until the desired flavor is obtained.

Horse Radish Vinegar is the grated root, together with a small quantity of shallots, onions or garlic, red pepper, etc., steeped for a week or so in vinegar, and then strained and bottled.

Horse Radish Powder is prepared by grinding the grated root, and drying by gentle heat or exposure to a current of dry air. When grinding the root, it is advisable to use a meat chopper in order to save the eyes!

Prepared Horse Radish of any kind should always be kept in a dark, cool place.

The roots may be left in the ground over winter and dug as needed. If dug, they may be kept fresh for some time by burying in cool sand.

An excellent winter salad may be obtained by sprouting the roots. If they are dug in the late autumn, the crowns being left intact, and then buried upright in moist, but not wet, earth in a dark, warm cellar, the leaves will grow white and tender and of a sweet pungency. They should be cut when about three or four inches long and may be used singly or mixed with other plant salads. Darkness during growth is essential, as if exposed to the light the leaves grow green and tough and too strong in flavor.

HUCKLEBERRIES. The huckleberry, blueberry, bilberry and cranberry constitute the principal members of a large family of edible berries, botanically classed together. CRANBERRIES (which see) are easily and naturally distinguished by their red color, but the titles of Huckleberry, Blueberry and Bilberry are variously and contradictorily employed in different localities. By New England custom, those of bluish color are popularly known as Blueberries; those black or nearly so, as Huckleberries. West and South of New England, the general tendency is to group all varieties under the common name of Huckleberry, in spite of the fact that the market supply is chiefly of blueberries. Botanically, blueberries and bilberries are now ascribed to the *Vaccinium* genus and huckleberries to *Gaylussacia*. Physically, blueberries and bilberries are generally sweeter, milder and larger than huckleberries, and the seeds, though more numerous, are so much smaller as to be scarcely noticeable in eating. They are also generally bluer than the Common Huckleberry (*G. Resinosa*), but the color distinction is not absolute because of the bluish tint of the Blue Huckleberry or Dangleberry (*G. Frondosa*) and the nearly black hue of a few kinds of Blueberries. The name "Whortleberry" is in the United States applied to the Huckleberry, and in Europe to the Bilberry.

The numerous varieties of huckleberries, blueberries and bilberries range in size from that of a currant to a small grape, and in color from light blue to black, and ripen from the first of June to the last of August, remaining in the market until about the middle of September. They are picked in enormous quantities for use fresh as an edible fruit and (both fresh and canned) for pies and puddings. In Southeast Maine, vast areas are covered with the bushes. Cultivation is at present resorted to in only a few parts, as the wild bushes generally supply enough to meet the demand, but it is probable that the future will see greater attention directed to the improvement of these berries and their more extensive production. As marketed, two or more varieties are often mixed together.

The first to ripen is the *Dwarf Blueberry*, borne by a small shrub from six to fifteen inches in height, which grows and bears abundantly on the sand barrens and hills of Pennsylvania. The fruit is also known as Sugar Berry, Sugar Huckleberry, Blue Huckleberry, Early Sweet, Blue Sweet, Low Sweet, Early Blue and Early Huckleberry. It has a bluish coat, which looks as though dusted with flour.

Blueberries

Next come the *Low Blueberry,* also known as the "Blue Huckleberry," the *Canada Blueberry* and the *Dwarf Bilberry.*

The Low Blueberry grows on dry sandy ground West of the Alleghanies. The bush resembles that of the Dwarf Blueberry except that the plant is more erect. The fruit is large, blue and covered with bloom.

The Canada Blueberry, found in the Pennsylvania mountains and regions further north, is a shrub from one to two feet in height, bearing round or oblate blue berries, covered with bloom and pleasing in flavor, but not as sweet as the fruit of the Dwarf Blueberry. The bush is also known locally as the "velvet leaf."

The Dwarf Bilberry, found in northern Maine and Canada, is a small shrub from two to twelve inches in height, with large blue berries covered with bloom.

The High Bush Huckleberry

The latest in the market are the fruits of the *High Bush Blueberry* of the northeast states and the *High Bush Huckleberry,* both of them widely known as "Swamp Huckleberry," from their preference for moist woodlands and swampy ground. The bushes are tall—from four to twelve feet in height—and ragged or straggling in growth. The fruit of the High Bush Blueberry is a dark purplish; that of the High Bush Huckleberry is nearly black.

The crop is gathered mainly with steel rakes, similar to those frequently used in cranberry picking, a skillful "hand" sometimes collecting more than fifteen bushels in a day. Both men and women are employed for the work. The berries are afterwards winnowed in a machine which blows out the sticks, leaves and defective fruits.

The poorer grades are in some sections popularly called "crackers," because their tough skins crack when eaten. The term is also applied to the true huckleberry, because the bony covering of the seed "crackles" between the teeth.

HUMBUGS. The trade is perpetually annoyed by humbugs. We warn grocers against all preparations for preserving perishable articles, all schemes for mixing goods so as to cheat the buyer, and especially against goods which pretend to grade with the best and are offered at the lowest figures.

HUMIDOR: a term somewhat generally applied to any device for keeping cigars moist. A stricter trade acceptance confines it to boxes or chests especially constructed for keeping cigars in good condition—accomplished by insulation from contact with the outside air and the inclusion of a slab or tablet of porcelain, clay or other porous material which is moistened from time to time.

Devices, whether of clay or metal, in perforated tubes and other forms, which are set in cigar cases to keep the air moist, are best known as "cigar moisteners."

HUNGARIAN and AUSTRIAN WINES. Hungarian wines hold high reputation for their tonic qualities, as they contain an unusually large proportion of iron. The most famous of all is TOKAY (which see).

Szamorodni is a noteworthy soft, full, white wine made from the same grapes as Tokay, but without the selection, or addition, of vine-ripened berries.

Among other good varieties are *Ruszti* or *Ruster*, also of Tokay type; the red and white types of *Ménesér*, *Villanyi* and *Ofen*, or *Ofner*, *Adelsberger*; the red *Budai*, *Egri* and *Szegszarder*; the white *Magyaráter*, *Nesmélyer*, *Badacsonyer*, *Pesti* and *Somlauer*; *Karlowitzer*, of Port style; several *Muscats*; Hungarian *Vermouth* and a number of *Croatian* wines.

Austrian wines resemble Hungarian in general character. The best known are divers *Muscats*; *Gumpoldskirchner*, of Sauternes style; *Luttenberger*, rich and syrupy; *Voslauer*, red and white, and several varieties from Dalmatia—among them the sweet *Maraschino* (made from the grape of that name and having no connection with Maraschino, the liqueur) and aromatic *Muscats*.

HUNYADI JANOS. See article on table and medicinal MINERAL WATERS.

HYSSOP: a small bushy herb with leaves of aromatic and stimulant properties which grows wild in the south of Europe. The tops and flowers are used in making "Hyssop Tea."

ICE AND REFRIGERATION. Various methods of freezing water have been in use to a small extent for some hundreds of years, but the modern industry of ice manufacture and refrigeration, now of considerable magnitude and great importance, dates from about the year 1870. At that time there were four plants in operation in the United States as against nearly 2000 now engaged in the production of ice for general sale, in addition to the very large number of ice and refrigerating plants used in the meat, cold storage, brewery and other lines. Artificial ice was formerly soft and consequently of poor keeping qualities, but the present standard product is both hard and lasting. The great reduction in the cost of manufacture is attributable to the high efficiency of improved machinery.

Marking ice for cutting

The principal methods of modern use are the Compressor, Absorption, Vacuum and Cold Air. Nearly all American plants are operated either by the compressor or absorption system, the former being the more popular, and anhydrous ammonia is the gas most generally employed.

In the *Compressor* system, the gas is condensed by pressure and then reduced to a liquid by chilling in cooled "coils" or pipes. This liquid is released into another coil, known as the "expansion pipe," where it again becomes gas and in so doing absorbs heat from its surroundings—converting water into ice, or reducing the atmosphere in

cooling rooms, refrigerator cars, etc. The expanded gas goes back to the compressor to be used over and over again in the same way.

By the *Absorption* method, liquid ammonia is employed as the fundamental agent, the gas being released by heating to about 200° to 210° Fahr. The course of the gas produced is similar to that in the Compressor method, being chilled into a gaseous liquid in a condensing coil and going then to the Expansion Pipes, where its action is identical. It is later sucked back into the mother-water tank and the process repeated. In commercial operation, the process is practically continuous.

Sawing ice

The action of the Expansion Pipes may be either Direct or Indirect. By the former, they come in close or complete contact with the water or atmosphere to be frozen or chilled. By the latter, their direct action is on strong brine or on air-coils, which are employed as the immediate agents. The brine may be made with common salt, but preferably with calcium chloride.

The principal forms of manufactured ice are Can, Plate and Block.

Can Ice is obtained by setting cans of water, previously distilled and filtered to remove both impurities and air bubbles, in brine freezing tanks. It is generally good in quality but has a tendency to be soft in the center.

"Floating in" the cut ice

Plate Ice is made in oblong tanks in which the water is agitated by air-jets to remove the air particles and assist the freezing action to drive the impurities to the center, which remains uncongealed and is later run off. The sides of the tanks consist of iron plates in contact with Expansion Coils. The ice forms on these plates—hence its name. As removed from the tanks, it is obtained in blocks, generally about sixteen feet long, eight feet wide and one foot thick, weighing three tons and upwards.

Block Ice is made in the same way as Plate Ice, except that it is formed in cells or plate-tanks which are frozen solid, or direct on the Expansion Pipes.

Impure and Poor Ice. It is incumbent upon municipalities and individuals to protect themselves against the sale of ice, whether natural or artificial, produced from contaminated water, as under certain conditions it may prove most unwholesome. The increase in population and the growth of manufacturing industries has so extended the pollution of lakes, rivers, etc., that in the larger towns and cities the

consumption of local natural ice is often fraught with considerable danger. The use of artificial ice from water which has undergone thorough preliminary purification is then the only safe recourse, unless natural ice from unpolluted sources can be profitably imported.

Ice should always be thoroughly washed before placing in the refrigerator, both for hygienic reasons and to avoid clogging the pipes.

Cheap ice, like most "bargains," is very wasteful. Clear, hard, non-porous ice lasts longer and is cheaper in the end. For its economical use, good insulation in the construction of refrigerators and cooling rooms is essential (see REFRIGERATORS). The color of pure ice is deep blue, but this is only discernible when it is seem in large quantities, as in glaciers

See also article on COLD STORAGE.

Filling the local ice-house

ICE CREAM: originally signified a frozen mixture of sweetened milk or cream, but the term has for many generations been applied to a wide range of frozen delicacies of widely differing composition—varying from the original plain milk or cream basis to the most fancy French and Italian mixtures, and including alike within its popular significance those enriched with eggs and mixed with fresh and preserved fruits, nuts, etc., and the types cheapened or modified by a liberal use of cornstarch, etc., for the tastes and demands of the public vary widely. In its various forms it is consumed more generally in the United States than anywhere else on the globe. In commercial manufacture, a small quantity of gelatine or vegetable gum is generally included to add "smoothness" and prevent crystallization or graining.

The manufacture of ice cream has become an important industry. The former type of machine freezer, similar to the household freezer, has to a very large extent been superseded by self-charging and self-emptying freezing apparatus in which mechanically refrigerated brine in sealed coils or chambers takes the place of the open tub of ice and salt. In all of the larger factories, and in many of the smaller, mechanical mixers have also taken the place of the open vats and kettles, and mechanically refrigerated dry cold-storage rooms have succeeded the old ice and salt pack for hardening the ice cream after it leaves the freezer. The output for 1910 of factories selling at wholesale alone reached nearly 125,000,000 gallons.

In all of the bigger cities, the large companies not only deliver ice cream to grocers, but also furnish the cooling cabinets in which to keep it.

For household purposes, junket prepared from pure milk, mixed with whatever cream can be spared, is an excellent material for the making of ice cream, giving a smooth, delicate article at minimum expense. The junket process renders the product more easily digestible while at the same time thickening and improving its body.

ICE FISH: a delicate fish of the Great Lakes. See SMELT.

ICELAND MOSS: a nutritious lichen gathered chiefly in Norway and Iceland, but common also in more southern countries.

In Iceland, the "moss" is often dried, ground into flour and made into bread, but elsewhere it is generally made into a decoction or jelly and as such is considered a valuable article of diet for invalids and children, and a useful and popular demulcent and emollient in throat and pulmonary affections. The bitter taste noticeable in some kinds is removed by a preliminary cooking in hot water or by steeping it in several waters before cooking. It contains about 80% of Lichen Starch. Alcohol is locally distilled from fermented lichen starch.

ICING: for the ornamentation and "filling" of cakes, consists of very fine sugar worked into a soft paste with egg-white or corn syrup, and variously colored and flavored—as chocolate, lemon, maple, orange, pistachio, strawberry or vanilla. It is generally retailed in glasses or jars.

ICING SUGAR: very fine pulverized or "Confectioners" sugar.

INDIAN CRESS. See article under the popular title of NASTURTIUM.

INDIAN MEAL: ground Indian Corn or Maize. See CORNMEAL.

INDIGO: a vegetable dyestuff of much value, obtained from several plants native to India and America. The fresh plant juice is colorless, but when the plant is steeped in water and fermentation sets in, the coloring matter dissolves in the water, forming a yellow solution, which is drawn off from the rest of the vegetable matter and agitated and beaten to bring it freely into contact with the air for about two hours. This treatment causes the indigo to form and settle down as a blue precipitate, which is cut while soft into cubical cakes and dried by artificial heat. To hasten the formation of the indigo, a little lime water is sometimes added to the yellow solution.

Indigo

Indigo is used in the manufacture of inks and for laundry purposes. The best quality has the deepest purple color, will float upon water, is glossy, and when rubbed by the nail produces a bright coppery or purple-red streak. When the streak is dull and wrinkles, the quality is poor. Commercial indigo of good quality contains about 50% of pure indigo. The common varieties are very numerous, some merchants recognizing sixteen distinct grades.

Brown and red indigo are also manufactured.

Artificial indigo is now produced in enormous quantities from Coal Tar.

See also BLUING.

INK. The composition of the ink used by the ancients is not well understood, but their products excelled ours in blackness and durability. The necessary components of ordinary black Writing Ink are gall, sulphate of iron, known generally as green vitriol or green copperas, and gum. The gum is added to retain the coloring matter and to give the mixture the necessary consistence. Copying Ink is more concentrated and contains more sugar, which keeps it moist longer. The Marking Ink used in

marking boxes for shipment, etc., is a thin paint, made of lamp-black and spirits of turpentine.

INSECTS: of various kinds trouble the grocer, and great care should be taken to keep stores free from them, as they destroy stock and drive away customers. Various remedies are given under the headings of ANTS and COCKROACHES (which see), but without scrupulous cleanliness no permanent relief can be expected.

INSURANCE. No dealer deserves credit who does not keep his goods insured. Every merchant should be as certain to keep up his insurance as he is to lock up his store, and should avoid keeping oils, alcohol, gunpowder, benzine, gasoline, etc., on the premises in larger quantities than are permitted by his policy without making special provisions, and paying the extra premium.

INVERT SUGAR: the uncrystallizable sugar of honey, treacle, etc.—a form of GLUCOSE (which see).

IRISH MOSS: a popular title for the seaweed better known as CARRAGHEEN (which see).

ISINGLASS: is, properly, gelatine prepared from the air or swim bladder of the sturgeon, cod and similar fish, Russia, Brazil and the United States furnishing the bulk of the world's supply. It is employed in fining liquors and the manufacture of fish glue, etc., and in the household in the preparation of jellies, blanc-mange and similar desserts. Gelatine from animal tissue has, however, largely supplanted it in cookery on account of its lower price (see GELATINE).

Japanese Isinglass or Gelatine is prepared from a seaweed (see KANTEN).

ITALIAN PASTE: another name for macaroni, spaghetti, etc. See MACARONI.

ITALIAN WINES. Italy ranks second in the production of wine, its estimated yield being nearly a billion gallons a year. The greater part of this is retained for domestic consumption, and of the export the United States receives only a comparatively small percentage, the bulk going to South American countries, but the demand here is increasing—especially for Chianti as a general table beverage of low price, and for some of the finer varieties, particularly of the Sparkling Wines.

Chianti is a light wine, ruby-red in color, agreeably sub-acid, and, in the best varieties, of a very delicate bouquet. It is distinguished by being bottled in attractive straw-dressed, belly-shaped flasks. It is in its prime during its fifth or sixth year, but is palatable at half that age.

There is also a steady sale of Italian VERMOUTH (which see), and a limited market for *Marsala*, a wine resembling Madeira, but lighter both in body and color, which originated in Sicily. It was at one time very popular, especially as a "ladies' wine." Sicily also produces a noted Malmsey.

Other well known Italian Wines are *Lacryma Christi*, from Southern Italy, the choicest being produced on the slopes of Mt Vesuvius—both "white" and red in the "still" types, and the white also in "Spumante" or sparkling (champagne) style; *Capri*, still—red and "white"—from the Island of Capri at the entrance of the Bay of

Naples; *Asti,* red, dry, both sparkling and still, from Tuscany; *Falerno,* still—red and "white"; *Barolo,* still, resembling Burgundy, but somewhat dryer; *Barbera,* resembling Barolo; *Malvasia* (Malmsey) and *Malvasia Spumante;* the red *Nebbiolo* and *Nebbiolo Spumante* from the Nebbiolo grape, and several white *Moscato* (Muscat) wines, including *Siracusa,* or "Moscato di Siracusa," *Moscato di Stramboli,* and *Moscato Spumante,* resembling Sparkling Moselle.

Vino Santo is a very sweet wine made from dried grapes of varieties especially heavy in sugar. The bunches are hung on strings until shortly before Easter, being then pressed for use as an altar wine at that season. It is also popularly consumed as a liqueur wine.

JAGGERY: a coarse brown sugar made from the juices exuded by various palms in India which are tapped as our sugar maples are, the sap being collected in vessels attached to the trees and crystallized into sugar by boiling. Jaggery when fermented becomes Palm Wine, and this distilled furnishes the East India Rum known as ARRACK (which see).

JAM. The title "Jam" is generally applied to that class of preserve in which the whole fruit pulp is cooked together with water and sugar without regard to the preservation of the shape of the fruit—differing from "preserved fruits" or "preserves," which retain in some measure the original forms, and from "jellies," which are distinguished by the removal of the pulp tissues and are also generally more "solid" in body.

The highest class jam contains no other ingredients than the particular fruit of its title, cane sugar and water. Those of popular use and moderate price contain large proportions of apple juice or pulp and commercial glucose, in addition to the "character" fruit. When manufactured under proper supervision to insure the use of good stock and pure glucose, correctly labelled so as to avoid misrepresentation and sold at a commensurate price, such jam compounds are just as wholesome and to the average palate nearly as pleasing in taste as "pure" jam. They are a distinctly desirable addition to the food supply, as they offer to people of moderate incomes a plentiful supply of sweet "spreads" at, in many cases, less than half the cost of manufacturing "pure" jams. To some people, furthermore, the apple-glucose product is more acceptable as being less cloyingly sweet than many varieties of pure jams.

Though the use of fresh apple stock and pure glucose in the manufacture of "strawberry" and "raspberry" jams, etc., is entirely permissible under proper conditions, supervision by competent authorities is necessary to avoid the use of apple or other stock of poor quality, as it is easy to disguise such use by the addition of saccharin, artificial colors, etc.

The presence of a considerable amount of the pulp of the fruit after which the jam is named, does not always warrant the assumption that it is a high class product —for large quantities of more or less exhausted fruit pulp of all kinds are commercially obtainable as the result of the manufacture of extracts, high class jellies, etc.

The fruits chiefly used for jam and jelly making are Apples, Apricots, Cranberries, Currants, Oranges, Pears, Plums, Quinces, Raspberries and Strawberries.

JAMAICA GINGER. See article on GINGER.

JAMAICA PEPPER: a name frequently applied to ALLSPICE (which see).

JAPANESE ARTICHOKE, or **Chinese Artichoke,** or *Crown of Japan*: a root of the Jerusalem artichoke order, native to Western Asia, now cultivated in Europe and also lately to a limited extent in this country. Its manner of growth is shown in the accompanying illustration. The divided tubers are small, inclined to shell shape, with a thin skin of whitish-brown or ivory-white. The flesh, under proper cultivation, is white and tender. It is in season generally commencing with October, and is cooked in any way that is suitable for the Jerusalem artichoke. It is used as a vegetable, in salad compositions or as a garnish, principally in the last-named manner.

Japanese Artichoke

JAPANESE GELATINE or Isinglass. See article under the title of *Kanten*.

JAPANESE PERSIMMON. See article on, and *Color Page* of, PERSIMMONS.

JARS: glass or earthenware receptacles for liquids, preserves, etc. The ordinary glass preserving jars should be stocked by the grocer about the middle of May, before the early berries arrive. They continue in demand until all the fresh fruits are out of the market.

JELLY: the juice of fruits or meats, evaporated or thickened to a semi-solid consistence. High class meat jellies thicken principally from the gelatine extracted from the bone in cooking; high class fruit jellies from the "peetin" in the fruit juices.

The best fruit jellies are made by cooking the fruit in a small amount of water, then pressing the juice from the pulp, adding sugar to the juice, evaporating it to the proper consistence, pouring it hot into the glasses and sealing. In many cases the juice is clarified during the evaporating process. For some kinds, as the finest apple jelly, no sugar is added.

Cheaper jellies are made principally from minor grades of apple juice—from cores and parings of canning establishments, etc.—commercial glucose and a varying quantity of the juice of the "character" fruit, together with coloring matter, citric acid, or similar articles, to help give the jelly consistence, and frequently saccharin, etc., for increased sweetness.

In addition to the many brands put up in glass, etc., by well known manufacturers, very fair qualities of some types are in certain sections sold to the trade in five and ten pound pails to be retailed by the pound. Care should be taken to keep such goods closely covered, for if one fly can spoil the ointment of the apothecary, it can also ruin a grocer's good name! A wooden spoon should be used for dishing out, as metals are apt to turn the bright color of the jelly to a dull, undesirable hue.

JELLY POWDERS: consist generally of powdered gelatine, sweetened and artificially flavored and colored. The most popular flavors are chocolate, lemon, orange, raspberry, strawberry and vanilla.

JERKED BEEF: beef dried in the air after a brine immersion. The industry originated in Uruguay, where the beef so preserved is known as "Tasajo."

JERUSALEM ARTICHOKE: the tuber of a species of sunflower, somewhat resembling the potato in general characteristics, but sweetish in flavor and more watery and less nutritive in composition. There are two principal types—one long and with red skin, the other round, knobby and white. They are generally boiled and pickled or eaten with vinegar, but some people enjoy them raw, eating them with salt, like radishes. They make excellent soup. The name "Jerusalem" is a queer twist from the Italian word *Girasole*, meaning "Sunflower."

Jerusalem Artichoke

JEWELERS' RED or ROUGE: a fine powder of metallic oxide, used for polishing gold and silver. It is obtained chiefly by calcining either yellow oxalite of iron or sulphate of iron. The coarser, darker residue of the calcination of sulphate of iron, used for the same purpose, is known as Red Crocus.

JOHNNY CAKE: a popular term for any kind of plain corn bread. It originally signified a cake of cornmeal, salt and water, baked in the ashes or on a board before an open fire.

JUJUBE: the fruit of a spiny shrub of the buckthorn family, in some parts eaten uncooked, but more often dried and sold as a sweetmeat. It looks somewhat like a date and is generally red, though sometimes yellow in color. It contains a large percentage of nutrients and is highly rated medicinally for its demulcent properties.

The jujube has given its name to the famous confection "Jujubes," or "Jujube Paste," but the latter is generally made of gum-arabic and sugar.

Jujube

JULEP: is a word which came into our language from the Persian, its Eastern prototype signifying "sweet drink." As "Jalap" it was formerly used in medicine to describe a mixture compounded to make some drug more palatable or convenient. In this country it now means a beverage in which either whisky or brandy are mixed with sugar, cracked ice and some flavor, generally mint.

JULIENNE: a term applied (1) to shredded potatoes, (2) to a garnish of vegetables such as carrots, turnips, cabbage, celery, etc., cut in thin strips, and (3) to clear soup or consommé containing shredded vegetables. Dried "Julienne" for soups is retailed in packages. The name is from a famous chef, Jean Julienne.

JUNE BERRY, or Service Berry: the edible purple fruit of the Shad Bush, a small tree found in several varieties in many parts of North America. The "Service Berry" is of peculiar interest in the West, for it often formed the sole food of the Mormons and other pioneers in their days of hardships and privations. It is also known as the "Bilberry" in some sections.

The name Service Berry is occasionally applied also to the edible fruit of several shrubs and trees of the Mountain Ash family, the berries resembling tiny apples.

JUNIPER BERRIES: the dark blue, pungent, aromatic berries of the evergreen Juniper shrub, commercially important because of their use for flavoring gin. A nice flavor is given to corned beef by adding a muslin bagful of crushed juniper berries to the brine.

JUNKET: is made of sweet, luke-warm milk quickly turned by the addition of a little rennet (dissolved junket tablets). Sweetened and flavored with vanilla, or dusted with cinnamon or nutmeg, or eaten with berries, fresh or preserved, it is a pleasing dessert. The addition of a very small amount of sherry improves its flavor.

JUTE: the fibre of a tall, slender herb of the linden family, native to Asia but naturalized in many countries. It is used in the manufacture of carpets, bags, etc. The greater part of the sugar, raisins, spices, etc., from the Indies, both East and West, come to us in Jute "gunny-bags."

KAI APPLE: a large South African fruit which makes a very good preserve.

KALE or *Borecole*: a variety of cabbage differing from the common cabbage chiefly in the open heads of leaves, used in the household as "greens." The different types show a great diversity in leaf form—some are plain, others are waved or curved, many of them being beautifully patterned. The coloring varies from green to red-brown or purple.

Emerald Isle Kale

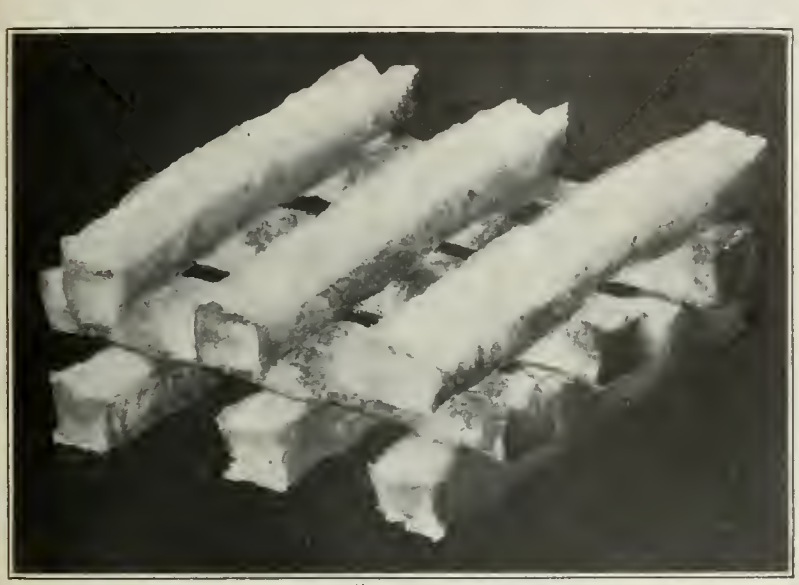
KALSOMINE. See CALCIMINE.

KANGAROO TAILS. The flesh of the various members of the Kangaroo family—the big grey Kangaroo, the Wallaby, etc.—is an important food item among the natives of Australia, and hunting the larger animals is a favorite sport of white residents. Kangaroo meat proper seldom reaches the United States, but there is a limited impor-

The exquisite leaves of four varieties of striped and variegated Kale

tation of canned Kangaroo Tails. When preparing for the table, first warm the can, then draw off the jelly and gravy and make it into a hot sauce with port wine and seasoning, strain, add the pieces of tail and serve with croutons of fried bread around.

KANTEN, *Japanese Gelatine, Vegetable Isinglass, Agar Agar*: prepared in great quantities in Japan from the Gelidium family of seaweed. It is pearly white, semi-transparent, tasteless and odorless and is marketed in stick and block form—"Slender Kanten" and "Square Kanten." On analysis, it shows about 60% carbohydrates and 7% protein (see FOOD VALUES).

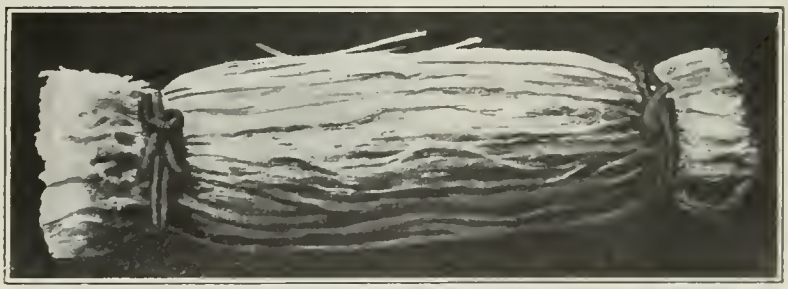


Bar or "Square" Kanten

Kanten is used by the Japanese in the preparation of jellies, soups, etc., and for clarifying Saki or Rice Spirit. The two to three million pounds which are annually exported to this country and Europe are employed in the manufacture of food products—to thicken jams, jellies, ice cream, etc.—in gin distilleries, and in the textile, silk and other industries. Under the name of *Agar Agar* it is used in making culture media in bacteriological work.

Bengal Isinglass, Ceylon Moss and Chinese Moss are similar, related products.

Gelidium seaweed grows abundantly on the Pacific Coast of the United States and at some points along the Atlantic, and apparently offers a good opportunity for the manufacture of domestic vegetable isinglass.



A bundle of "Slender Kanten"

KEG: a small barrel or cask, made in various sizes. As manufacturers' customs differ, kegs should not be accepted as five, ten or twenty gallons, etc., without gauging them.

KELP or *Bladder Weed*: an edible seaweed distinguished by its streamer-like leaves, found on both Northern coasts. The largest variety, known as the Giant Bladder Weed, has leaves which average from thirty to forty feet in length.

Kelp is in this country used almost exclusively as a fertilizer, but following Japanese methods of preparation—drying, shredding, etc.—it would undoubtedly meet

with favor as a food product—for use in soup, or boiled as a vegetable for service with meats, etc., or moistened with milk as a breakfast food. In Japan, the various preparations of Kelp are known as "Kombu" and are largely consumed.

KEROSENE or *Coal Oil*: a mixture of liquid hydrocarbons distilled principally from PETROLEUM (which see). If of good quality, it is nearly colorless. It is closely related to the British Paraffin Oil and in England is sold as "American Paraffin Oil."

As kerosene is of a highly inflammable nature, laws have been passed in different states which restrict its sale for illuminating purposes to certain degrees of "flash" or fire-test. It is safe at 130° flash, and is said to lose some of its qualities when further refined. Its boiling point should be above 170° Fahr. It should always be kept in a cool dry place and, so far as possible, closed against contact with the atmosphere.

To Test Kerosene Oil, put a *small* quantity of the oil in a cup, set in a tin of water and slowly warm the water, noticing the degree of heat in the oil by keeping a thermometer immersed in it. When the temperature rises, put a lighted match, or better still, an electric spark, quickly over its surface at intervals. As soon as the gas or vapor given off by the heated oil "flashes" or burns, its test is determined—that is, if it ignites when the mercury stands at 120° Fahr., it is oil of 120° flash test.

KETCHUP: one of several styles of spelling CATSUP (which see).

KHULASH: a Hungarian beef stew. See under title of GOULASH.

KIDNEYS: *Beef, Veal, Lamb.* A good kidney is light in color and firm to the touch. If dark red, it is less choice. If dark and soft, it is probably from an old or poorly fed animal. Veal kidney is the most delicate.

KILKIES. See matter under title of SPRATS.

KINGFISH (See *Color Page* opposite 240): one of the finest of American fishes, found along the Atlantic coast, both north and south, and in season from May to October. It averages one to two pounds in weight, larger specimens attaining a length of fifteen inches. The variety caught off the Northern States is distinguished by darker, more pronounced stripes than those of its Southern relations. The head of both types resembles that of the mullet.

KING, or **King of Siam, ORANGE:** a large rough-skinned tangerine type (see ORANGES).

KIN-KAN: another name for the *Kumquat* (which see).

KIPPERED: applied to herring or salmon, means that they are split, salted and smoked. The word "kipper" is a Scotch term to describe a salmon after its spawning period, at which time, not being valuable as fresh fish, it is generally smoked or pickled.

KIRSCH or **Kirschwasser:** a liqueur distilled from fermented sweet black cherries —the finest types from the sweet aromatic small black wild cherry. The pulp of the

KUMQUAT

LOQUAT

fruit is first crushed and allowed to ferment, then a certain quantity of the cherry kernels is added and allowed to steep, the juice being finally expressed for distillation.

KIRSCHMUSS: a thick unsweetened jelly made from the juice of sweet black cherries, in common use in Switzerland. It is eaten with sweet butter and bread.

KISSES: a popular name for meringue, and some other, candies.

KISSINGEN. See article on MINERAL WATERS.

KIT: a term chiefly applied to a wooden vessel containing one-tenth of a barrel, used in the packing of salt mackerel, but also, in some sections, to containers for other fish, salted butter, etc.

KOHLRABI: a variety of cabbage with a turnip-like thickened stem, or "root," growing just above the ground. The leaves, when young and tender, are eaten as greens, but the "root" is the better part. The plant is also called the "cabbage turnip."

Kohlrabi

KOLA NUT: a brownish bitter seed or nut, about the size of a chestnut when fully matured, growing in pods, bean style, on a small West African tree. It is credited by the natives with the property of allaying thirst and promoting energy. It is also said to be efficacious in purifying water and in counteracting the effects of over-indulgence in intoxicating liquors. Analysis shows that the Kola Nut contains from two to three times as much caffeine as the coffee bean and it is for this stimulating property that it is principally used commercially in extracts, tonic beverages, etc.

KOLCANNON. See CALECANNON.

KOONTI or *Indian Bread Root*: a Florida plant whose roots give a meal or flour resembling arrowroot.

KOSHER, or **Kasher, MEAT:** is primarily meat from an animal or bird that has been killed by a *Shohet,* an expert meat inspector, under the laws of the Jewish Talmud.

A strictly Kosher butcher must buy all his stock alive, the animals being generally killed in the slaughtering house by a Shohet. Great care is taken to avoid exciting the animal to be killed, for its death must be as calm, speedy and sudden as possible. Bullocks, calves, sheep, etc., are killed by cutting their throats with a special knife, the blade of which is about twenty inches long and two inches wide and is kept as sharp and highly polished as a razor. The cut almost severs the head from the body and the carcass is allowed to bleed as freely and as long as it will—the object being to clear the flesh of blood as completely as possible, the consumption of blood being forbidden by the Jewish law. Chickens, geese, etc., are decapitated with a similar knife and are allowed to bleed in the same manner.

When the bleeding has ceased, the carcass is opened and a most minute examination of the lungs, entrails, etc., is made. The slightest defect will result in the shohet condemning the entire animal as *Tref (Terefah, Treife)*—unfit for food.

If the animal is pronounced Kosher, the meat undergoes the next operation of *Porging*—the removal of all bloody veins and gristle. Because this operation involves a great deal of labor if applied to the hindquarters of bullocks and sheep, that part of the animal is in this country generally classed as Tref, even when the carcass in general is Kosher, and is sold to Gentile butchers. The hindquarters of calves and lambs are retained and treated like the remainder of the carcass. The Porging is properly followed by applying salt to complete the extraction of the blood.

It is because of these special precautions that Kosher Meat ordinarily commands prices higher than the average of the retail markets.

Kosher Corned Beef is Kosher Beef prepared by, first, a thorough soaking in fresh water, next bedding for some time in dry salt and then a second washing before immersion in the brine, where it must remain for twenty-four hours.

All fresh fish of the scaly varieties may be eaten without the intervention of the Shohet, but the ordinary salt and dried fish of commerce come under the ban, because of the possibility that some matter not Kosher may have been employed in preparing them.

Swine, hare, frogs, snails, fish without scales or fins, as eels, etc., are among modern foods which come under the classification of Tref.

The refusal of all meat that is not Kosher is a matter of religious principle with the orthodox Hebrew, but the practical advantage is that the careful personal inspection by the Shohet guarantees him flesh in absolutely healthy condition, his religious law thus protecting him against the many diseases liable to result from the consumption of the flesh of unhealthy animals.

As applied to other foods, as "Kosher Bread," "Kosher Butter," etc., the term signifies special care and cleanliness in preparation and manufacture. The vessels and utensils used in handling them must never be allowed to serve for any other purpose and should be cleansed and inspected with great exactness.

Kosher Sausage is sausage in which the meat used comes within the definition of *Kosher*.

KUMISS, *Kumyss*, or *Koumiss*: was originally fermented mare's milk prepared by the Kalmucs, but for European and American purposes it is made from cow's milk. Yeast cultures and a little sugar-syrup are added to the milk—the sugar because cow's milk does not contain as much lactose as mare's—and it is allowed to ferment for about twenty-four hours. The result is a slightly sour milk, effervescent from the carbon-dioxide and very slightly alcoholic. Its use, both as a beverage and in the sick room, is largely increasing, as it is refreshing and nourishing. When drawn from the bottle and poured a few times from glass to glass, it becomes thick like whipped cream and is then most palatable.

Matzoon, or ZOOLAK (which see), is a similar preparation of cooked whole milk.

KUMMEL: a noted liqueur, the most esteemed varieties being those of Russian and German manufacture—among them Allasch, Eckau, Getreide and Gilka. The essential ingredient is caraway seed extract, but the finest types also include bitter almonds, orris root, angelica, anise, etc. See general article on, and *Color Page* of, LIQUEURS.

KUMQUAT, or *Cumquat*: a very small orange, native to China and Japan, now under general cultivation. The fruit is generally oval in shape and the size of a small

plum (see *Color Page* of KUMQUATS, opposite 320). The rind is sweet and aromatic, and the pulp acid—the entire fruit, rind and all, is eaten by many people. It also serves, quartered or sliced, as an excellent and very ornamental addition to fruit and nut salads, and is very good candied or otherwise preserved whole, and as jelly, marmalade, etc.

The Kumquat tree grows naturally to a height of six feet, but is usually dwarfed to two or three. At state dinners in China, and occasionally at fashionable banquets here and in Europe, the little trees are placed before the guests that they may pluck the fruit direct from the branches.

LABELS. Every year improves the grade of the labels on all kinds of food and other grocery items, and by judicious purchases of suitable packages and good arrangement on the shelves, the appearance of a store can be very much improved. Some standard goods are put up under very plain labels, generally the original designs under which they were first sold, but poor labels, and especially those of slovenly appearance, generally indicate equal neglect in preparing the contents.

A dealer who desires to build up a lasting trade should never allow a misleading label to bear the name of his establishment—if it is not "Pure Maple Syrup," be wise and honest at the same time and label it "Prime Syrup—Maple Flavor." Loud colors and flashy designs offend the best buyers, and with the present facilities for color-printing and good artistic designs there is no excuse for a label less creditable than the article which it covers. The American Grocer says: "Some manufacturers have taken a very brave and commendable stand in this matter by so defining their products that the exact character is indicated on the label. When, for instance, honeycomb has been put up in jars with corn syrup, the fact of its presence and the reason therefor has been stated on the package. Where a preservative has been used, this has been indicated. Such a course clears the atmosphere and begets confidence all around."

Experience teaches that consumers are quick to decide whether an article is wholesome or not, and if the exact nature of a food product is defined, a conclusion is much sooner reached than if its true character is concealed. A manufacturer should not be required to disclose formulas, and it is a question whether he should be obliged to make known the character of special products, if they are not prejudicial to health; but so long as there are questions in dispute, the easiest way and best way is to be frank with the public and to win confidence by plainly stating on the label the true character of the product.

LACTOMETER: an instrument employed to test the specific gravity of milk. By "specific gravity" is meant its weight in comparison with that of water, which is taken as a standard for all solid and liquid substances. Unadulterated milk is heavier than water—a can full of milk, for example, may weigh three pounds heavier than if full of water. The use of the lactometer or other test rests on the fact that a body will sink deeper into a light than into a heavy liquid. When a standard at which milk may be considered unadulterated is adopted, milk into which the lactometer will sink deeper is said to be of low specific gravity—which may mean that water has been added to it.

LACTOSE: the chemist's title for MILK SUGAR (which see).

LAFAYETTE: a small light-colored panfish, weighing up to half a pound, found along the Atlantic coast. It is in season from the middle of August to November.

LAGER BEER. See general article under heading of BEER.

LAKE TROUT: a large American fresh-water fish. See article on TROUT.

LAMB: is generally understood to be the meat of sheep under twelve months old. It is much more difficult to keep it in good condition than mutton and it also varies greatly in quality—lambs being very tender animals, their flesh is easily injured by rough treatment, by storms, or by poor food. The color and quality of the fat on the back and around the kidneys affords the best test of quality—it should be white, even-colored and hard. The cuts are known by the same titles as mutton cuts. See diagram in article on MUTTON and also *Color Page* opposite.

Ordinary spring lamb comes into season during March, but is best from May to July. "Hot House" Lamb is very early spring lamb obtained generally by stimulating breeding by transferring the sheep from cool to warmer climates.

LAMB'S FRIES: lamb's testicles. They should be parboiled, cut in halves and skinned, before seasoning and cooking.

LAMB'S LETTUCE, LAMB'S QUARTER: local names for the salad plant described under the title of CORN SALAD.

LAMPBLACK: soot that is produced by burning rosin, turpentine, pitch, oil or other substances in ways that produce the maximum volume of smoke. It is used principally in the manufacture of paints, blacking and marking inks. Its quality depends upon its lightness of weight and intensity of color.

LAMPREY: an eel with some of the characteristics of the finned fishes, which reaches a length of one and a half to two and a half feet. It is in season during April and May, leaving the sea at that time to ascend the rivers to spawn. Its flesh is soft, glutinous and delicate, but most people find it very difficult to digest—hence the popular credence in the legend of the death of King Henry I from eating too many lampreys. In England, it is popular in the form of Lamprey Pie and Potted Lamprey.

LANDRAIL: a kind of SNIPE (which see).

LARD: is hog's fat separated from the tissue by boiling or rendering. The residue is known as lard stearin.

Lard is put up in kegs, barrels, tierces and small cans. Its quality varies very much with different houses. If pure, it should be white, of the consistence of ointment and free from any disagreeable taste or smell.

Leaf Lard is that made from the leaf fat which lies around the kidneys. The next best in quality is that from the back, and the poorest that from the small intestines. The greater part of that marketed is obtained by the melting together of the whole fat, except the leaf fat.

Compound Lard is generally a mixture of lard stearin and cottonseed oil.

(1) Short Saddle
(3) Rib Chop

(2) Loin Chop
(4) Forequarter

LAMB

The most common fraud in the sale of lard is the substitution of "compound" for pure lard.

New tierces will soak from two to three pounds when filled with hot lard, but if they weigh over that amount claim should be made on them. The most honest of packers are liable to have trouble with tares.

Lard should be stored in a dry, cool, dark place—moisture, light and high temperature affect its quality.

LARD-OIL: a valuable lubricant for machinery. If of good quality, it is pale-yellowish or nearly colorless, of slightly fatty odor and bland taste. It becomes opaque at or below 32° Fahr. Admixture of cotton-seed oil is not readily detected, if only refined and very pale grades are employed, but any deep-colored lard oil, or one having a pronounced yellow tint, is open to suspicion.

LARK. The common lark is seldom eaten in this country, but in Europe it is looked upon as a wholesome and delicate game bird. In France it is most popular in the lark-pie which has helped to make the reputation of the city of Pithiviers.

LASAGNE: a kind of MACARONI (which see) in the form of ribbons.

LAVENDER: a perennial plant now grown principally for its flowers, which are used in making perfumes or for sale dried for sachet bags, etc. It was formerly very popular as a pot-herb and for flavoring jellies.

LAVER: an edible seaweed found on both the Atlantic and Pacific coasts. It is a food item of importance in Asia and in some parts of Europe. In Scotland and Ireland, under the name of "Sloak" or "Slook," it is boiled and served with butter, pepper, vinegar, etc., or fried in bacon fat after boiling. It is especially good as an accompaniment for cold meats. It is best to cook it in a porcelain saucepan, as it is liable to act on metals.

Laver is rich in protein, averaging from 30% to 35% (see FOOD VALUES).

LEAKAGE: the waste of any substance as a result of an opening or defect in a containing vessel of any kind. Allowance is made for leakage only when it can be proved that the goods were not shipped in proper condition.

LEAVEN: dough which has become sour. It was formerly employed in breadmaking, a small quantity being added to new dough to excite fermentation and cause it to "rise." Its use is, though, liable to produce a disagreeable taste and odor in the bread, and it has been almost entirely superseded by yeast. See BREAD.

LEAVENED BREAD: any kind of "raised" bread (see BREAD).

LEBEN: a form of fermented milk, the raw milk being raised to blood-heat before adding the ferment.

LEBKUCHEN or *"Sweet Cakes"* or *"Honey Cakes"*: a famous variety of German cake, composed of a great diversity of ingredients, the most important being flour,

honey, sugar, spices, alcohol, almonds, citron, orange peel, etc. A characteristic feature of its manufacture is that the dough is allowed to "rest" for a considerable time before baking, so as to permit a better amalgamation of the flavors and other properties of its components—many makers hold it in cool, dry places for several months before sending it to the ovens. The best known varieties are White Lebkuchen, Brown Lebkuchen, Bremen Pepper Cake, Thorner Lebkuchen, Baseler Lebkuchen and Nuremburg Lebkuchen. Both imported and domestic lebkuchen are sold here, the principal demand being during the winter holidays. Good lebkuchen will remain fresh for a year or eighteen months, the honey used in its manufacture keeping it moist.

LEEK: a form of onion cultivated for the blanched lower parts of the leaves, commonly called the "stems," and the bulbous roots, both of which are used in cookery, chiefly in soups and stews. In flavor they resemble a very mild ordinary onion.

Leek

LEGUME: a word applied botanically to the one-celled, two-valved seed-pod of plants of the *Leguminosae* order, to which belong the many varieties of beans, peas and lentils. In popular usage the title has been extended to the fruits of the plants. Legumes, also sometimes classed as "Pulse," are among the most valuable of vegetable foods.

LEICESTERSHIRE SAUCE. See general article on SAUCES.

LEMON (*Color Page opp.* 332). The lemon is a member of the citrus family, which includes oranges, grape fruit, etc., and is probably native to the north of India. The fruit is usually oval, wrinkled or furrowed, of various shades of yellow and, generally, with concave oil-cysts in the rind. Its chief merits are the abundance of citric acid contained in the pulp and the quantity of oil yielded by the rind. California produces an ever increasing quantity, but not yet enough to supply the demand, from 135 to 180 million pounds being imported from Italy every year.

The fruit is gathered, while still green, as soon as it has reached a marketable size, irrespective of the stage of maturity—if allowed to ripen on the tree, it becomes coarse and of poor quality. A flourishing grove is ordinarily picked once every month. The picker is frequently provided with a steel measure or gauge attached to his thumb, all fruit as large as, or over, the size of the gauge being clipped from the tree and placed in a bag suspended by shoulder straps (*see opposite page*).

After picking, the lemons are washed and then sorted according to their color—dark green (unripe); silver green (partly ripe) and yellow (ripe). The unripe and partly ripe are placed in storage, separately, to "cure," *i. e.*, to color and mature. The

A California lemon orchard, showing irrigation ditches

tree-ripened fruit are usually shipped at once, because of their poor keeping qualities. The curing of the unripe fruit covers from two to four months, their keeping quality depending largely on the care exercised in the control of temperature and humidity during the process.

For market purposes, California lemons are generally sorted into two or three, and sometimes four, grades, based on the general texture of the skin—on appearance, whether scarred or not, color, form and general "style." Size is not considered in this grading. The best or *Fancy* fruit must have good color, fine texture, normal form and no scars, and be heavy and juicy. Thin-skinned lemons are generally considered the best. The next lower grade is called *Choice*. The third, *Standard*, includes fruit which may be irregular in shape and badly scarred and discolored but is still of fair fruit value. The fourth or lowest quality is known as *Culls*.

After grading, the lemons are sized by hand, ranging from 180 to 540 to the box, running generally from 240 to 490. The most desirable sizes are those ranging from 300 to 360 to the box.

Picking lemons—clipper in his right hand and steel measure attached to his left thumb

The life of the lemons after leaving the packer depends also upon the care exercised in handling—they readily deteriorate if damaged by bruising or other abrasions of the skin. The only practicable method for holding them in large quantities for any considerable length of time is by cold storage. At a temperature of 40° Fahr., they will remain unimpaired in quality for eight to twelve weeks. For household purposes, if refrigerator space is not available, they keep much better when immersed in fresh cold water than if left to dry out on a shelf.

The photograph on page 332 is of some of the huge, rough-skinned lemons frequently seen in Italy. They sometimes reach eight and nine inches in length, with weight and width in full proportion.

LEMON BALM (herb). See matter following title of GARDEN BALM.

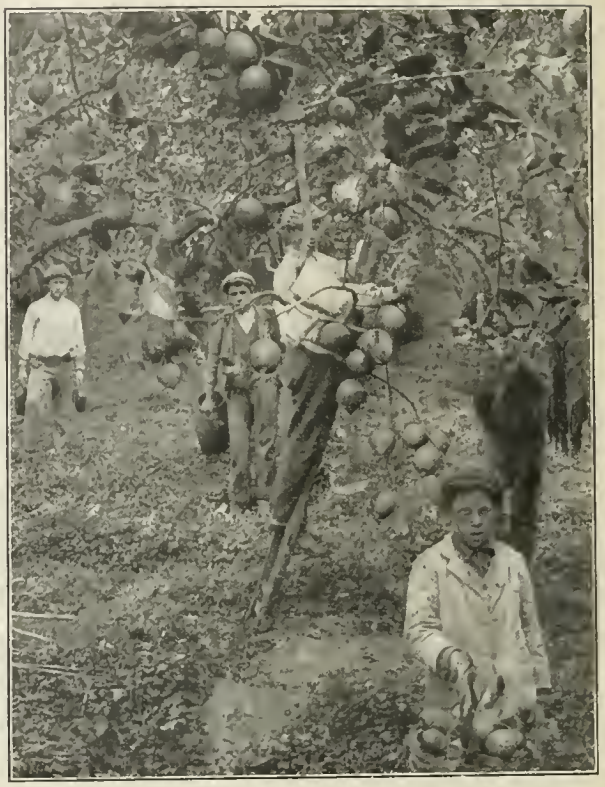
LEMON EXTRACT. First class lemon extract consists of lemon oil (which see) distilled in strong alcohol, or lemon oil and lemon peel macerated in alcohol, filtered and bottled. In the former case, the extract is generally colored by the addition of a small amount of yellow coloring removed from the lemon peel used.

Terpeneless lemon extract is made from terpeneless lemon oil, *i. e.*, lemon oil from which the terpene or hydro-carbon components have been extracted. The claim is made that the terpene, which constitutes the major portion of lemon oil, is of little importance as regards flavor and odor and is in many respects undesirable, as extracts prepared from oil containing it are liable to acquire an unpleasant odor with age and exposure to the air because of its oxidation products. Terpeneless oil has the additional advantage that it is to a greater extent miscible with water solutions than the unmodified oil.

The characteristic odor and flavor of lemon oil, both unmodified and terpeneless—and hence also of lemon extract—are due chiefly to the citral contained, together with some citronella and a small quantity of other related bodies.

Many of the cheaper "lemon extracts" are merely weak washes made by shaking unmodified lemon oil in diluted alcohol, about 25% to 30% pure, and then removing the oil which separates. Such extract may smell fairly good in the bottle, but it is of little value in flavoring articles to be cooked, for when alcohol falls below 40% in volume it will take up only a very small percentage of the unmodified lemon oil.

Imitation lemon extract is largely made from oil of lemon grass, a grass-like plant, widely cultivated, especially in India and Ceylon, which has an agreeable smell and a warm, bitter, pleasing flavor.



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Picking Lemons near Palermo, Sicily

LEMON JUICE. In addition to its wide use in making lemonade and for general flavoring purposes, lemon juice is a valuable article medicinally, particularly for use as an anti-scorbutic, and it is so recognized by the U. S. Pharmacopeia and all other medical publications. Its chief component is citric acid, in an average proportion of about 7%.

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Large rough-skinned lemons of Southern France and many parts of Italy

Bottled Lemon Juice, if of good quality, is the pure clarified juice of fresh, sound lemons, and retains all the properties of the juice freshly expressed. It should always be kept in a cool place and the contents of the bottle should be consumed as soon as possible after opening.

LEMON OIL. Almost the entire supply of the oil of the lemon rind is produced in Sicily and is still obtained by hand processes—the small factory output, which is darker in appearance, being principally employed to heighten the color of the hand-made oil. The two most widely used methods are known as the "two-piece sponge" and the "three-piece sponge," the

LEMONS

distinction referring to the number of pieces into which the rind is cut. The former generally produces oil with the smallest percentage of water to be afterwards separated, but that from the latter is said to filter more rapidly and keep clean longer.

For the three-piece method, the lemons are cut lengthwise into three slices. The pulp is first removed—the juice to be expressed and sold to the manufacturers of citric acid, and the residue to be used for animal food—and then the peel is put into large baskets and stored in a cool place for some hours until it is considered in the proper condition for pressing.

Each workman engaged in extracting the oil has in front of him a tin-lined copper bowl and holds in his left hand a medium-sized sponge of superfine quality, which has previously been very carefully washed. He also holds other small sponges between the fingers of the same hand to prevent the loss of any of the oil, which is very volatile. With the right hand he takes a piece of peel from the basket and squeezes it against the sponge, thus forcing the oil through the pores of the rind into the sponge. When the sponge is full of essence it is squeezed into the bowl. In order to make sure that the peel has yielded all the essence that can be pressed out by hand, the overseer from time to time tests the rejected peel by squeezing it close to a flame. If there is any essence left, it is forced through the flame and produces a flash of light. (Children try the same experiment with orange peels.) The used peel is put into brine and sold to manufacturers of "candied lemon peel."

When the bowls are full, they are set aside for a short time to permit the impurities to settle and then the contents are carefully decanted, the clear essence going into large tin-lined copper vessels. Before shipment, the product is passed through filter paper to purify it and give it limpidity, and is finally transferred to copper bottles of various standard sizes.

The quantity and quality of essence yielded varies according to the season. During November, December and January, when the greater part of the supply is manufactured, one thousand lemons will give about one and a half pounds of essence. Lemons not fully ripe are preferred, as they yield a larger quantity and more fragrant quality than those fully matured. A small amount of essence is made during the spring and summer, but the product lacks the delicate fragrance of that made in the winter.

LEMON PEEL: is commercially most important for its use in the manufacture of lemon oil, lemon extract, liqueurs, etc., but considerable quantities are also retailed plain-dried for culinary purposes and preserved in sugar as "candied lemon peel," the best grades of the latter being prepared in much the same way as citron peel (see CITRON).

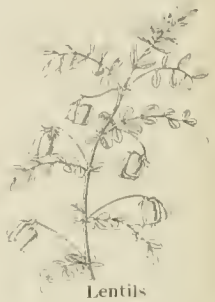
LEMON SYRUP: if of the first quality, consists of lemon juice, fresh lemon peel and sugar. The juice is first boiled with the peel, cooled and filtered, then a little water is added and finally the sugar is put in and dissolved. A lesser grade consists of syrup with citric acid and lemon extract added in the proportion of 2 to 1.

LEMONADE: a beverage made from the lemon, popular both as a means of allaying thirst and for medicinal purposes, being in the latter case drunk either hot or cold, according to the complaint. Itinerant venders of lemonade formerly employed citric or tartaric acid, or even a few drops of sulphuric acid, to make their

mixture, only slicing a few lemons to float on top and please the eye. This practice is not as common as it used to be, but in some sections caution is still advisable. Many "lemonade powders" declared to be pure were made in a similar way. Reliable brands of lemon or lime juice are the best substitute when the fresh fruit is not obtainable.

In England, lemonade is known as "Lemon Squash."

LENTIL: a nutritive legume, the pods containing each three or four seeds of similar circumference to the ordinary pea, but flat and thin in shape. On analysis it shows an average composition of Starch 50½%, Albuminoid material 30%, Sugar 3½%, and Moisture, etc., 16%. Large quantities are consumed in Europe in the form of soups and stews, much of the supply being imported from Egypt, and it is steadily growing in favor in this country.

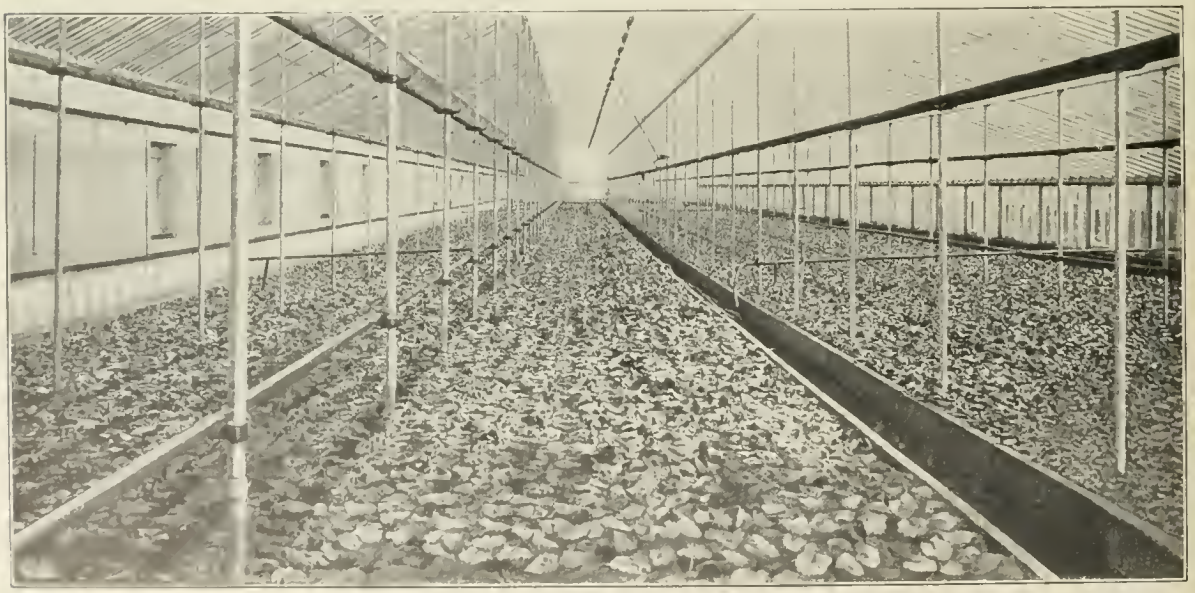

Lentils

For soups, the tough outer skin is, after boiling, removed by straining, and meats are added as a flavor.

A considerable proportion of the present domestic supply of lentils is still imported, but it is probable that the near future will see the market fully supplied by growers in the Southwest sections.

Revalenta Arabica, which has been sold as a dyspeptic food, consists of lentil meal, and the lentil probably formed the "red pottage" for which hungry Esau sold his birthright.

LETTUCE: the chief salad plant of modern days, is probably native to the Greek Islands. In England, the type generally known here as *Romaine* still bears the name of "Cos Lettuce," after the Island of Cos, which now belongs to Turkey but was formerly under Greek rule and is noteworthy as the birthplace of Hippocrates and several other famous men of ancient Greece. It was first used in England in 1520, and King Henry VIII conferred a special reward upon the gardener who devised the combination of "Lettuce and Cherries" for the royal table.


Growing lettuce under glass—20,000 heads under this one roof

The many varieties under cultivation are capable of general classification into three principal types—(1) *Cabbage* or *Head* lettuce, the most widely cultivated form; (2) *Romaine* (which see) or *Cos* or *Leaf* lettuce, and (3) *Cutting* lettuce, which forms no head, being instead cut while the leaves are small and giving in that manner two or more crops.

If the leaves are washed for salad making, they should be thoroughly dried afterwards with a towel or napkin. If the head is close and good, no washing is necessary after the removal of the outside leaves, as the inner leaves will be quite clean.

The heart of a head lettuce should be firm, crisp and bleached—a rusty red tinge is an indication of overlong keeping.

Lettuce will keep fresh longer when the roots are left on the plant.

LICHEN: a moss which grows on trees or rocks. It has many colors and forms, from the grey or green covering on stones, and the larger and more bushy types attaching to trees, up to the edible forms such as ICELAND MOSS (which see), which grows over large areas and is an important food for man and beast in the Arctic.

LICORICE or *Liquorice.* The black licorice rolls or sticks familiar to the consumer, consist, when pure, of the condensed juice of the root of the licorice plant, mixed with a little starch to prevent it from melting in warm weather. The word "licorice," through its Latin form *Glycyrrhiza,* is derived from the Greek words for "sweet root."

The licorice plant is a small shrub of light green foliage, attaining a height of about three feet and favoring localities near rivers (see *Color Page* opposite 338). When dug, the root is full of water and the drying process frequently takes from six months to a year. It is then sawed or cut into small pieces, six inches to a foot long, and carefully sorted, the good and sound pieces being pressed into bales for shipment.

The bulk of the licorice rolls, paste, etc., of domestic consumption is manufactured in this country from the imported dried root, the principal sources of which are Asiatic Turkey and Russia.

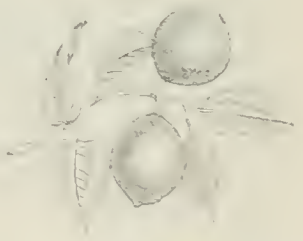
The sale of licorice as a candy is merely incidental. It finds its principal use in medicine and it is also extensively employed in the manufacture of tobacco and liquors, to give color and flavor to Stout, etc.

LIGHTS: a term applied to the lungs of animals.

LIMA BEANS: a native American product. See sub-head in article on BEANS.

LIMBURGER CHEESE. See description in general article on CHEESE.

LIME (fruit). The lime is a fruit of the lemon species, grown abundantly in the West Indies, India and some parts of Europe. It is almost globular in shape and is much smaller than the lemon, averaging only from one to one and a half inches in diameter, but its skin is thin and its juice very abundant. As the use of limes is steadily extending, the trade can profitably recommend them as good substitutes for lemons and as possessing a peculiarly agreeable aromatic flavor. Dominica and Jamaica, of the British West Indies, send us our main supplies of the fresh fruit.



Limes

Fresh limes are, however, very perishable and they should be kept in a cool, dry place. If to be held for a considerable length of time and refrigerator facilities are limited, it is a good idea to cover them with dry sand.

The whole limes are also put up in syrup as a dessert dish, and "candied" as a confection, and the rinds are boiled in sugar and dried in the same manner as candied lemon peel.

Lime Juice, in which form the lime is best known to the general public, is put up in bottles of attractive appearance and makes a desirable article for all fancy grocers. The best qualities come from Dominica and Montserrat, West Indies. Besides making a delicious beverage, it has been for a long time recognized as a useful medicinal agent, almost identical in composition with LEMON JUICE (which see).

The color of good sound lime juice should be a very pale straw—if it tends toward red, the product should not be accepted at first-class prices. It is advisable to select only guaranteed brands, as a considerable percentage of the commercial supply consists of juice pressed from fruits in all sorts of conditions. The juice is offered in this market as low as twenty cents a gallon, and though this may possess good appearance and flavor when fresh, it is liable to acquire a moldy flavor in a year or two, and, if the bottles are not hermetically sealed, it will finally turn red.

Low grade varieties also frequently contain preservatives and artificial coloring matter.

LIME: is commercially made from limestone or other forms of mineral calcium carbonates by the action of heat, as by roasting in kilns. When pure, it is a white, brittle substance. "Unslacked lime" is the dry product before the addition of water or its absorption from the atmosphere. The addition of water, if not in excess, produces great heat. Its chief use is in mortars and cements, but it is also employed as a fertilizing agent, in the purification of coal gas, in tanning and for numerous medicinal purposes and laboratory processes. Lime is found in many foods and is essential to the formation of the human frame.

Lime Water, when mixed with an equal or greater quantity of milk, is an excellent remedy for vomiting caused by irritability of the stomach. A solution of ordinary strength is obtained by dissolving a piece about the size of a hen's egg in a pint of water.

LIMITATIONS, Statute of. On account of the frailty of human memory and the uncertainty attached to long-deferred claims, all civilized countries have established limits within which rights may be litigated, the law defining them being called the Statute of Limitations. The statute begins to run when the right is complete, *i. e.*, when the money claimed is due and payable, subject to certain exceptions in favor of minors, persons beyond seas and those *non compos mentis*. After it begins to run, it is not stopped by anything except a payment on account, or an acknowledgment of the debt accompanied by an express promise to pay it, which, in some States, must be in writing. In either event, the debt is said to be "revived" and the statute commences to run anew from the date of such revival. The limitation, being regulated by the various State Legislatures, differs widely throughout the United States.

LING: a fish resembling the whiting, found on the northern Atlantic coast.

LICORICE (foliage, root, and finished product)

LINSEED MEAL or **Flaxseed Meal:** is usually ground flaxseed oil-cake, but for medicinal purposes should be ground flaxseed from which the oil has not been extracted.

LINSEED OIL or **Flaxseed Oil:** is produced from flaxseed by crushing and pressing. It is amber in color and of a peculiar, rather disagreeable, odor and taste. It is sold mainly by weight, seven and a half pounds being reckoned to a gallon, and is used in the manufacture of paint and varnish, linoleum, patent leather, printing inks, etc. The cake from which the oil has been expressed is commercially known specifically as OIL-CAKE (which see).

LIPTAU CHEESE: a goat's milk product. See general article on CHEESE.

LIQUEURS, or *Cordials.* The numerous beverages classed under this heading differ widely in character. Some of them are prepared direct from fruits by fermentation and distillation, but the majority may be described in a general way as highly sweetened brandy or other spirit, flavored and aromatized with one or more spices, herbs or fruits, or with a combination of all three. Their attractiveness is frequently enhanced by coloring with vegetable or harmless coal-tar extracts and putting up in bottles, etc., of fanciful design.

It is the great care exercised in their preparation that has held the best known liqueurs so high and so long in public esteem—principally among good livers who are capable of discrimination. It is, however, so easy to manufacture grossly inferior imitations which resemble the original products closely enough to deceive the inexperienced, that caution should be exercised in buying.

Compound liqueurs are made (1) by bringing the aromatic properties of the fruits, herbs, etc., in contact with vaporized, generally alcoholic, liquor; (2) by distillation of the liquor following the addition of essences or essential oils (see remarks on Natural Essences in the article on EXTRACTS), or (3) by dissolving essences in strong rectified spirits of wine. Ingredients, as sugar syrup, which are not volatile, are added after distillation.

The production of liqueurs or cordials is at least as old as the records of civilization. Long before the Christian era, similar fragrant beverages were made both for human use and as offerings to heathen gods. Later, "cordials"—still of the same main characteristics, but improved by distillation and the advance of knowledge—were prominent in medical practice and graced every festival and celebration. In the Middle Ages, their use was fostered by the various orders of monks and nuns. To-day, France, Italy, Germany and the United States have large interests involved in their manufacture.

Confusion occasionally arises from the indiscriminate use of the terms *Eau de* ("water of") and *Crème de* ("cream of"). Properly applied, *Eau de* (as, for example, *Eau de Cédrat*) means that the liqueur, though sweetened, is not syrupy. *Crème de* (as, *Crème de Cédrat*) means that sufficient sugar has been added to give it syrupy consistence.

Extrait de ("extract of") and *Elixir de* ("elixir of"), are used in the same way as *Eau de.*

Baume de ("balm of") and *Huile de* ("oil of"), are used in the same way as *Crème de.*

Ratafia (which see) is a generic term often applied to simple, light liqueurs, such as *Apricot Ratafia, Cherry Ratafia*, etc.

Rosolio, in addition to its specific use, is sometimes employed to signify special choiceness.

The liqueurs most popular in this country are *Absinthe, Bénédictine, Chartreuse, Crème de Menthe, Curaçao, Kirsch, Kümmel, Maraschino* and *Vermouth*. The term is also frequently applied to fine old *Cognac* brandy, choice well-aged *Schiedam Schnapps* (gin), rich old wines such as *Tokay, Vino Santo* (Italian) and *Rivesaltes*, and very sweet rich wines such as *Constancia* and the Swiss *Glacier*, when they are used as "liqueurs" at the end of a dinner—but they are not properly in this class.

Liqueurs should be served at, or a few degrees above, the temperature of the average dining room. With occasional exceptions, the small liqueur glasses should be used, as little more than a mouthful is required—the idea being, with most varieties, merely to obtain a "fillip" to digestion after a meal and to leave a pleasant flavor in the mouth.

Many liqueurs include a number of different spices, herbs, etc., in their formulas, but there is generally one principal item which supplies the distinctive character. The following supplementary list names these "character ingredients," or other special features, in lieu of more lengthy description. The full titles include in many cases one or other of the terms "*Crème de*," etc., previously referred to.

ABRICOT—apricots.
ABSINTHE.*
ALDABO (a Cuban imitation of Curaçao)—bitter orange peel.
ALKERMES—bay leaves and mace.
ANISE. ANISETTE—aniseed and coriander.
APRICOTINE—apricots.
AQUA D'ORO—an Italian cordial similar to *Eau d'or* (see below).
ARGENT, EAU D'—similar to *Eau d'or*, substituting silver for gold.
BANANE, BANANINE—bananas.
BARBADOS—orange juice.
BÉNÉDICTINE.*
CACAO—roasted cocoa beans with vanilla flavoring.
CAFÉ—coffee extract.
CANNELLE—cinnamon.
CASSIS—fresh black currants.
CÉDRAT—citron.
CÉLÉRI—celery.
CERISES—cherries.
CHARTREUSE.*
CHESKY (cherry whisky)—cherries.
CITRONELLE—orange and lemon peels.
CHOCOLAT—cocoa.
CORIANDRE—coriander seed.
CRÈME DE MENTHE.*
CURAÇAO.*
EAU DE VIE DE DANTZIC—brandy aromatized with spices, and containing particles of gold leaf floating in it.
EAU D'OR, or "GOLD CORDIAL"—Angelica, raisins, figs, licorice, etc. So named because gold leaf was formerly, and is still sometimes, added, as in *Eau de vie de Dantzic*.
FRAMBOISES—raspberries.
FRAISES, FRAISETTE—strawberries.
GENTIANE—gentian flowers (Swiss).
GINGEMBRE—ginger root.
GOLDWASSER—a German product similar to *Eau d'or*.
GRENADE, GRENADIN—pomegranates.
KIRSCH.*
KÜMMEL.*
LIMONES—fresh and dried orange and lemon peel and seeds.
MACARON—oil of bitter almonds.
MANDARINES—mandarin oranges.
MARASCHINO.*
MASTICA DE CHIOS—Turkish *Mastic* (which see).
MAZARINE—wild cherries.
MOKA—coffee extract and oil of bitter almonds.
MÛRES—blackberries.
NOYAU or NOIX—oil of bitter almonds.
ORANGE—fresh oranges and orange rind.
POMERANZEN—oranges.
PARFAIT AMOUR—lemon rind and vanilla essence.
PEKOE—black tea.
PERSICOT—peach flowers and seeds.
PRUNE COGNAC—similar to *Slivovitz* (which see).
PRUNELLE—sloes.
RAKIA (Hungarian)—very aromatic grapes.
ROSES—rose essence.
ROSOLIO—rose and orange-blossom essences, spices, etc., colored pink. Also, a cordial made chiefly from raisins.
SLIVOVITZ.*
TRAPPISTINE (yellow and green)—absinthe and various spices and herbs.
VANILLE—vanilla extract.
VERMOUTH.*
VINO PINO (Cuban)—pineapples.
VIOLETTE—violet essence.
YVETTE—violet essence.
ZWETSCHENWASSER. See *Slivovitz*.

*See description in alphabetical position.

(1) Bénédictine (2) Curaçoa (3) Crème de Menthe
(4) Russian Kümmel (5) German Kümmel (6) Liq. des Pères Chartreux (7) Maraschino

LIQUEURS

LIQUID MEASURE. See tables of *Weights and Measures* in APPENDIX.

LIQUORICE: another widely accepted way of spelling LICORICE (which see).

LITCHI, or *Lichi*: a nut grown in Southern China and sold in a dried state in this country. As seen here, it is nearly round and from one to one and a half inches at its widest diameter, with a very thin but tough shell, dark brown and granulated in appearance, enclosing a dull reddish-brown pulp of raisin-like sweetness, with a round flat stone in its center (see *Color Page* opposite 414). The fresh nut looks like a strawberry, and the sweet pulp enclosed in the rough red skin is then whitish and watery.

LITHIA WATER. See article on table and medicinal MINERAL WATERS.

LITRE. See "Metric System," in Tables of *Weights and Measures* in APPENDIX.

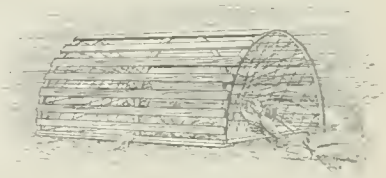
LIVER. The livers of animals, such as the bullock, the calf and the sheep, contain a large amount of nitrogenous matter, but they are generally regarded as indigestible articles of diet and are therefore to be avoided by dyspeptics.

Good, fresh liver should be clear, bright and of a yellowish red.

Calf's liver is so much in demand by the hotel and restaurant trade that there is often none left for the casual domestic buyer. Beef liver is, consequently, often substituted for it if the purchaser is uninitiated. The order of quality is (1) calf's liver, (2) beef liver, (3) pig's liver and (4) sheep's liver. Sheep's liver is generally poor and hard.

See also FOIE GRAS (Goose Livers).

LOBSTER: a fish of the crab species which is rated by many people as the most delicate and delicious of all sea food. In addition to its consumption fresh, its meat is canned in immense quantities, the smallest of the catch retained being generally used for the purpose.



Lobster Pot

Lobsters weighing from fifteen to twenty pounds are not uncommon. It is the weight for size that indicates the quality—a large, light specimen is never as good as one smaller but heavier in proportion. A nine-inch lobster generally weighs about one pound.

Lobsters are preferably sold alive, so that there can be no doubt as to their freshness, and the use of improved shipping packages makes it possible now to deliver them alive and in good condition to almost any part of the country, but large quantities are boiled as caught and thus shipped.

The enormous consumption and the difficulties experienced in safeguarding natural propagation have resulted in a steady diminution of the supply, but energetic measures are being taken by the Government to offset the conditions, and in the United States "Sea Nurseries" artificial propagation has already proved so successful that it is reasonable to hope for a long and large supply for the future. One of the most difficult problems is to prevent the baby lobsters from destroying each other, their cannibalistic tendencies making doubly arduous the care required to raise them.

The lobster of the Atlantic Coast is distinguished from others of the family by its immense claws (see *Color Page* opposite). The native "spiney lobster" of the Pacific Coast, and the Cuban and French lobsters have no claws, but are characterized by their "horns," or remarkably well-developed antennæ.

On the Atlantic Coast, lobster fishing is conducted all the way from Labrador to Delaware, but the coasts of Maine and Nova Scotia are the most fruitful sections. Nova Scotia is also noted for its large canneries.

Lobsters hug the shores of rocky coasts during the summer and are then more easily obtained than in the winter, when they go farther to sea. They are caught by means of "pots" or traps—box-like affairs, averaging four feet long and two high, made of laths or iron bars. The entrance, on the end, is funnel-shaped and of netting or wood, so formed as to make ingress easy, and egress practically impossible. The pot is baited with fish, weighted and sunk to the bottom of the lobsters' feeding ground, generally about a half mile from shore, its location being marked by a buoy bearing the owner's name. The fisherman empties the pot through a door at the top, and throws back into the water the lobsters under the legal size—which is regulated by state legislation and varies from time to time.

It is estimated that but two lobsters out of every ten thousand reach maturity, but to counteract this alarmingly small percentage, a ten-inch lobster produces about ten thousand eggs at a time, and doubles her product with every additional two inches of length. The young lobster casts his shell four times before the characteristics of the adult are assumed, and until the fifth change, which is reached at the age of from three to six weeks, it remains near the surface of the water and is destroyed by the million, both by storms and surface-feeding fish. After this period, its habitat is the bottom of the sea, where it feeds principally on fish, alive or dead indifferently. It grows only during, or immediately after, its annual moulting or casting of its shell, but at that time the rapidity of its development is wonderful.

Lobsters are very voracious in their habits, and frequently have very animated combats among themselves, during which one of the combatants is reasonably sure to lose some part of a leg or claw—another member grows in its place, but it is always smaller than the original.

Shellfish, and especially lobsters, afford more phosphorus than any other food. They are perhaps, unconsciously, on this account much eaten by the nerve-racked workers of the great cities.

Lobster Butter or Paste: is cooked lobster "coral" or roe, pounded to a paste, mixed with butter, etc., and rubbed through a sieve. The term "coral" had its origin in the appearance of the lobster eggs after cooking.

LOCKSOY: rice boiled to a paste and drawn into threads, imported from China. It is used to thicken soups.

LOGANBERRY: a California product, a cross of the black and red raspberry.

LOGWOOD: a tree cultivated principally in the East and West Indies. The wood yields a principle which is employed as a dye, generally darkish-red in color.

LONDONDERRY-LITHIA. See article on Table and Medicinal Mineral Waters.

(1) Lobster
(2) Crab
(3) Crayfish
(4) Shrimp
(5) Prawns (Cooked)
(6) Cooked Lobster, Crab and Crayfish

LONGAN: a fruit-nut resembling the Litchi, but generally smaller, much esteemed in China and Malaysia. The interior, when fresh, is a sweetish pulp enclosing a single large seed. It makes excellent preserves and is exported both in that form and plain dried.

LOOFAH. See TOWEL GOURD.

LOQUAT: a yellow, generally oval, plum-like fruit, a near relative to the medlar and sometimes, but incorrectly, called the "Japan Plum." It is very agreeable to the taste when fully ripe. It can be eaten in almost any manner, raw or cooked, that serves for other fruits. The down should be carefully wiped off before serving to eat raw. See *Color Page* opposite page 320.

LOVAGE: an aromatic plant, now used chiefly in the manufacture of confectionery. The blanched stalks were formerly consumed as a salad vegetable of the same type as celery and are still popular for that purpose in some parts of Southern Europe.

Scottish Lovage, a similar plant of the same species, grows wild on the Shetland Isles, north of Scotland, and is there used as a popular article of diet.

Loquats

LOVE APPLE: the former name for the TOMATO (which see).

LOZENGES: are made in many different styles and shapes—square, circular and oval. They are composed of farinaceous matter, sugar, gum or gelatine, etc., variously flavored, and are employed both in medical practice and as candy. They were formerly the main candy supply of the country villages.

LUCCA OIL: a trade name for fine OLIVE OIL (which see).

LUNCH TONGUE: a trade name for canned tongue (see TONGUE).

LYE: is, in strict parlance, water impregnated with an alkali, but in general usage the word is applied to all forms of soap-making alkalies, from the "mother lye" of wood ashes, formerly used in farm life to make soft soap, up to the metal drums of caustic potash and soda imported from Europe.

MACARONI: is considered by the general public as a typical and peculiarly Italian food, and Italy is probably entitled to the credit for her early appreciation of its virtues and her fidelity to it after adoption, but history credits its invention to the Chinese and its European introduction to the Germans. The Italians are said to have learned the art of making it from the latter. History, however, also informs us that, by the time the fourteenth century had rolled around, Italy was the only European nation enjoying macaroni, and that she held for a full hundred years the secret of the method of its manufacture. Later, some enterprising Frenchman introduced it into France, and with great success, for it is on record that King Louis XIII ordered a dish of it from an inn-keeper at Tours who had made a great reputation for its preparation.

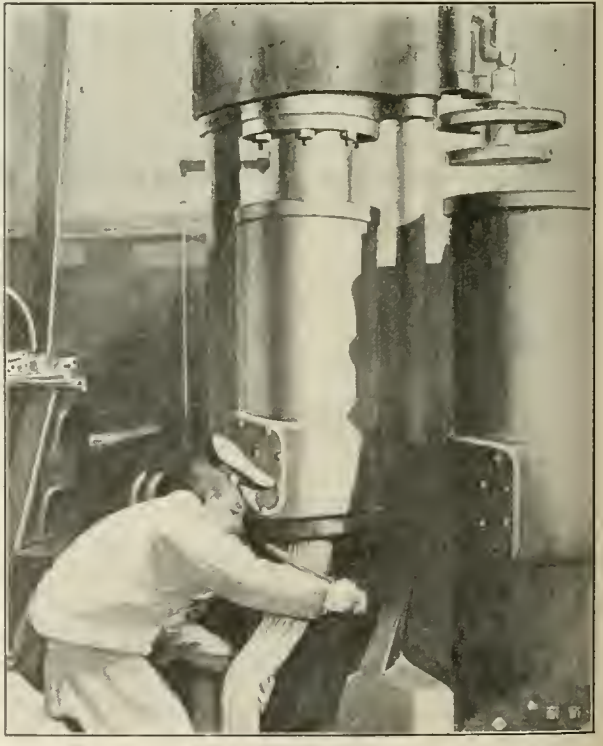
The above is briefly the European idea of the history of macaroni—but it is disputed by the Japanese, who claim priority in its use by hundreds of years. The Japanese delight especially in a very fine kind of vermicelli, cut into lengths of six to ten inches and tied in bundles. This variety is also peculiar in that it is flexible.

The essential point in the manufacture of macaroni is that the meal or "semola" be from hard, very glutenous wheat, the kind known as "macaroni wheat" in this country. The best imported macaroni is made from the blending of various grades of semola obtained from Taganrog wheat—a very hard Russian variety, both imported from Russia and raised from Russian seed in Southern Italy and France.

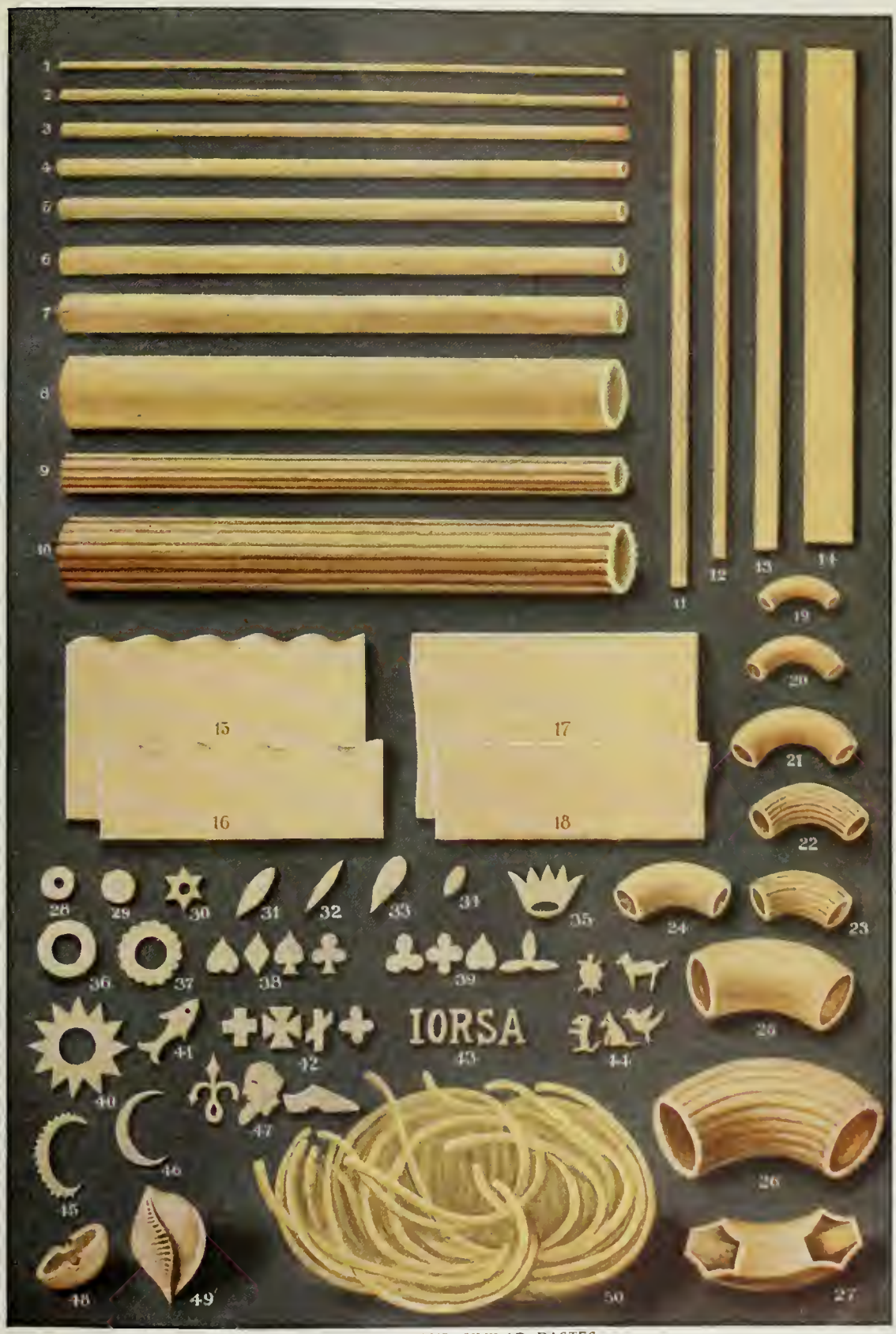
By the original European method, the wheat is first steeped in water, then dried by heat, ground and sifted—both the husks and a considerable percentage of starch flour are thus separated, leaving a coarse meal, high in gluten and corresponding closely to the wheat "middlings" marketed here as wheat "farina" for consumption as a "cereal." The lessening of the starch proportion is advantageous, as in cooking its expansion tends to break the pipes or make them stick together in a pasty mass.

In general modern manufacture, coarsely ground flour is moistened with the smallest possible quantity of boiling water, and thoroughly mixed, by machinery, until smooth and "tough" and then kneaded in a special machine kneader known as a "gramola." The completed dough goes into the cylinders of the press, where tremendous pressure is brought to bear on it by means of revolving screws, and it is slowly passed out at the bottom of the cylinder through the small holes of the "trafila," as the perforated plate is called.

The form of the trafila fixes the character of the product—for "macaroni" and similar varieties, there is in each hole a steel pin which gives the "pipes" their well-known hollow or tubular form. With smaller holes without pins, the trafila produces "spaghetti" and similar solid types. For flat, noodle-like or "ribbon"

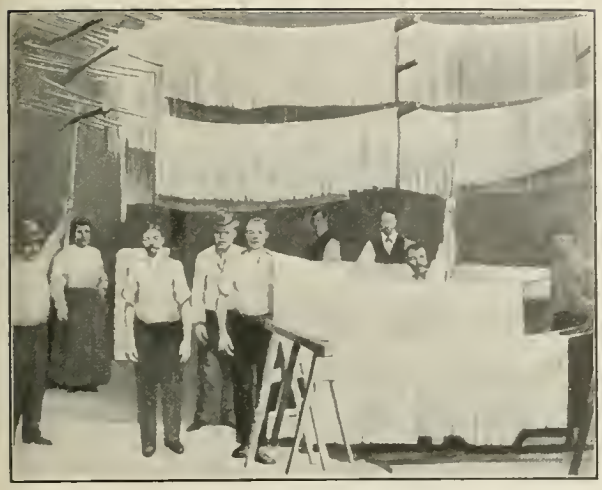


Cutting off the macaroni strings as they come out of the "trafila"



MACARONI AND SIMILAR PASTES

(1) Vermicelli
(2) Spaghettini
(3) Spaghetti
(4) Foratini or Maccheroncelli
(5) Forati or Perciatelli
(6) Mezzanelli
(7) Mezzani or "Macaroni"
(8) Zitoni
(9) Mezzani Rigati
(10) Zitoni Rigati
(11) Tagliarini
(12) Linguine
(13) Trenette
(14) Fettuccelle
(15, 16) Lasagne Ricce
(17, 18) Lasagne Lisci
(19, 20) Tubetti
(21, 24, 25) Ditali Lisci
(22, 23) Ditali Rigati
(26) Rigatoni
(27) Bombollotis
(28 to 49) "Fancy Pastes"—seeds, stars, alphabets, animals, &c
(50) Curled Vermicelli



Drying Spaghetti on canes

varieties, a flat opening takes the place of the round hole.

The short kinds are cut off by automatic rotary knives as the paste comes out of the trafila. The long varieties are cut off at the proper lengths by hand.

Next comes the drying—in Italy generally accomplished by outdoor exposure. The long solid pastes are looped over canes, the others are generally spread on frames. When sufficiently dry, they are carefully inspected, sorted, weighed and packed.

When outdoor exposure is not possible, as, for example, in paste manufacture in the Eastern United States, a special drying room is used, the frames or canes being placed in tiers.

The proportion of profit in paste manufacture depends to a considerable extent on the care in drying—on the vigilance exercised in ensuring an unvarying temperature of the proper degree. If the air is allowed to become too moist, the entire batch may be ruined by mildew or souring; if too hot, it may spoil by over-rapid drying and consequent cracking or damage to its texture, and if the room is draughty, loss by cracking is again the result.

The average American consumer has no idea of the number of forms, a hundred or more, in which the paste is made by Italian manufacturers. They range from *lasagnes,* short, flat pieces from one to two inches wide, cut out, and sometimes molded, by hand, to *fidellini,* long thin threads, the finest of which are many times smaller than *vermicelli,* which is the smallest type generally known here—and, in between, a great variety of forms and sizes—tubular, solid-round and flat, long and short, stars, dots, crescents, little animal shapes, etc., the last-named varieties being cut from thin sheets of the dough. See *Color Page,* opposite page 350, illustrating a number of different types.

Macaroni should be kept in a dry, cool place. Under proper conditions it will remain good for a long time, but it is not generally advisable to risk deterioration by laying in a large stock.

In cooking, be careful to put it into *boiling,* and salted, water. Cold water will spoil the best macaroni. The water must be kept fully boiling for from twenty to thirty minutes until the macaroni is tender. When done, drain well and season or dress to suit individual

Drying the "pastes" in the open air near Naples, Italy

tastes. The idea is to have every tube thoroughly tender, but each tube whole, separate and without pastiness.

In Creole cookery, macaroni, spaghetti, etc., is freely added to many soups.

If macaroni, after proper and careful cooking, is pasty or does not retain its shape, it is of poor quality and probably made from the wrong variety of wheat. Cooking is the only really conclusive test, consequently it is not good policy to stock heavily any macaroni by a new or unknown manufacturer until you have tried it by cooking some.

MACARONI BREAD: that made from Macaroni Wheat. See BREAD.

MACARONI WHEAT: another name for Durum Wheat, so called because it is accepted as the most suitable of American-grown wheats for the manufacture of Macaroni (see articles on MACARONI and WHEAT).

MACAROONS. There are two leading varieties of the sweet biscuits known as Macaroons—those made of almond meal, and those of shredded cocoanut. They should be handled as fresh as possible, and should be kept in a dry, moderately cool place, protected from the air.

Macaroons were first made by an order of nuns at St. Emilion, France.

MACASSAR OIL: is, properly, the product of a tree of the Sapodilla family, grown in the Macassar district of Celebes, one of the East Indian Islands, but the trade article frequently consists of, or contains, cocoanut and safflower-seed oil. Its chief use is in the perfumery trade.

MACE: is the inner covering which envelopes the nutmeg (*see Color Page of* SPICES). It closely resembles a lacerated membrane, being blood-red and somewhat fleshy when fresh. It is prepared for the market by being carefully flattened out and dried for several days in the sun, much of it becoming red-yellowish during the process. It is used both in "blade" and ground form to spice soups, sauces, puddings, etc., its flavor closely resembling nutmeg, but being, to many tastes, even more pleasing. It also furnishes a strong, yellow, volatile oil, and a red, buttery, fixed oil which, mixed with other substances, is known as Nutmeg Balsam.

The bulk of the supply comes from Banda (the best), Penang, Singapore, Celebes and, though only to a comparatively small extent, the West Indies. Care should be taken to choose that with a deep orange color and clear, transparent, wax-like appearance. Dull looking parcels are not desirable.

"Macassar," "Papua," and "Bombay" mace are fictitious titles sometimes given to a wild product, the mixing of which with cultivated mace is rated as adulteration.

U. S. Standard Mace contains not less than 20% and not more than 30% of non-volatile ether extract; not more than 3% of total ash; not more than 5% of ash insoluble in hydrochloric acid and not more than 10% of crude fibre.

Mace should be always kept in air-tight glass bottles or tin boxes.

MACEDOINE: a mixture of cut fruits or vegetables of different colors. Vegetable Macédoine is now retailed in bottles, tins, etc., for usé in soups, as a vegetable dish and for garnishing.

MACKEREL (*see Color Page opposite* 504). The Common Mackerel, considered by many the most beautiful of all fish which find their way to our markets, make their appearance in early spring in immense shoals or "schools" off the coasts of Virginia and Maryland. Striking northward, they visit successively Cape May, Sandy Hook, Block Island, Cape Cod and various other points. They can be traced as far as Labrador. How much farther they go, no one can tell. They are, for the most part, caught in drift nets, shot into the sea from fishing smacks, but seines or single nets are often used.

The mackerel ranges in length up to seventeen or eighteen inches, the average market size being twelve inches and the weight from three-quarters of a pound to one pound. It varies in color from multi-hued to white, with dark-blue stripes on the back. It is full grown at about four years. The young fish are known as "spikes," "blinkers" and "tinkers." "Spikes," the smallest marketed, are five to six inches long and five to seven months old. "Blinkers" are a size larger. "Tinkers" are those approaching, but under, nine inches in length and are supposed to be about two years old.

The fresh fish is in season only from April to about September, but the greater part of the catch is consumed salted, smoked and canned—whole or filleted, "soused" or pickled, in oil, wine sauce, etc.

Salt mackerel are shipped first in barrels, to be later repacked according to the demands of the trade. They are carefully graded for the market as 1, 2, 3 and 4. *No. 1* quality must not be under thirteen inches, free from taint, damage and rust, and fine, fat fish. *No. 2* must be fat and free from rust, and not less than eleven inches. *No. 3* consist of the best left after the selection of Nos. 1 and 2. *No. 4* is the result of the three preceding assortings, but must be entirely free from damage or taint to pass muster.

The location in which mackerel are caught has an influence in determining their commercial value. The finest European catches are those taken off the coasts of Ireland and Norway. The best sold here are from the New England shore waters, the June catch being considered superior to the spring and fall crops.

In addition to the home supply, from twenty to thirty million pounds are imported annually, principally from the United Kingdom, Norway, Canada, Holland and Sweden.

The packing and re-packing of mackerel is an extensive business, and the result of the repacking is not always satisfactory to dealers or consumers. A barrel of mackerel should weigh two hundred pounds. Two half-barrels, then, should weigh one hundred pounds each, but it happens sometimes that half-barrels scale fifteen to twenty pounds under that amount. The same remark applies to repacking in smaller quantities. A "kit" is a fifth of a half-barrel and ought to contain a full twenty pounds. Retailers should carefully weigh packages or contents and refuse their custom to firms which violate the principles of business honesty.

The mackerel is much esteemed, its flesh having an agreeable flavor, but, as usually prepared for the table, it is not readily digested on account of its large proportion of oil. This difficulty vanishes with proper cooking—by simmering it after boiling for a considerable time—three or four times as long as for any other fish, except salmon. In preparing it for cooking, it is nearly always preferable to wipe it dry with a clean cloth instead of washing it.

See also SPANISH MACKEREL and FOOD VALUES.

MADEIRA: a "white" wine of fine flavor and rich quality, usually fortified by the addition of clear spirit, produced in the Island of Madeira, a Portuguese possession, situated about 300 miles from the Coast of Morocco. It was at one time a very fashionable wine and has again increased somewhat in vogue. It is consumed in considerable quantities in Great Britain and Continental Europe.

A hand Wine Press, Madeira

Madeira is exported in both casks and bottles. If circumstances warrant, it is generally preferable to purchase in casks, and bottle the wine after its receipt here, as, with the exception of very old stock, it is apt to throw a considerable sediment when shipped to colder climates. Among the varieties most worthy of notice are *Verdeilho,* in both rich and dry styles; *Malmsey,* very sweet and soft; *Sercial,* or "Serceal," very dry with a nutty flavor, and *Bual,* or "Boal," which in the best qualities possesses an exquisite bouquet. It should be stored in a moderately warm place and it generally ripens better in demijohns than in bottles. It should be served at about the temperature of the average dining room and can be decanted without disadvantage if so desired.

Transporting wine from the courtyard, Madeira

Large quantities of spurious "Madeira" are made in France, Spain and elsewhere, but an abundance of the genuine wine is easily obtainable by those who specify it—the annual production of the Island having for many years averaged 10,000 pipes, as against a total annual export of between 6,000 and 7,000 pipes.

The name "Madeira" is applied to numerous sauces, cakes, etc., but in actual practice other wines, such as sherry, are generally used.

MAGGOTS. These destructive pests are the larvæ of flies. They are found feeding upon many foods, especially the carcasses of animals (see article on MEAT). If they appear in vegetables, the only proper method is to discard them entirely.

MAIGRE: a term applied in cookery to dishes prepared without meat, poultry or game, and in which butter is used to the exclusion of lard, beef suet, etc. They consist chiefly of eggs, fish, vegetables, etc., and are eaten by Catholics on occasions which interdict the use of meat, as the term is generally understood. The word originally signified "lean," "poor," "scanty."

MAITRANK. See item under heading of MAY WINE.

MAIZE: the distinctive title of the grain generally known in the United States as Corn (which see) or Indian Corn.

MAIZENA: another name for Cornstarch (which see).

MALAGA GRAPES: Spanish grapes exported from Malaga. See Grapes.

MALAGA WINE: a delicate wine from Malaga grapes. See Spanish Wines.

MALDIVE FISH, or "Mummalon": an East Indian fish, sold canned at fancy grocery stores.

MALLARD. See Ducks (*Wild*).

MALMSEY, Malvoisie, Malvasia: are titles correctly applied only to wines from the Malvasia grape—which takes its name from the Greek island of Malvasia, where the type was first produced. So highly was it then esteemed that Virgil described it as "New Nectar." "Malvasia" grapes were later cultivated in many parts of the world—in Spain, the Canary Islands, Madeira, France, Italy, Greece in general, etc.—chiefly nowadays in the first three. They are of fine flavor, though less strongly characterized than Muscats, and yield a soft and pleasing wine of delicate bouquet, which with age develops a liqueur style. The wines vary in tint from light to purple or brown, being subject both to differences in methods of manufacture and in vine selection, the Malvasia grape being found in numerous varieties and in white, purple and black colors.

MALT: grain in which Diastase has been developed by allowing it to sprout. It is used in large quantities in the manufacture of beer, whisky, malt extract, etc. The grain is first steeped in tubs of water for from forty-eight to seventy-two hours until it starts to germinate and is then spread on floors in a layer from eight to twelve inches deep, being turned over every twenty-four hours during the four days of the process in order to prevent "heating" and to ensure even growth. It is next kiln-dried and screened to remove the sprouts and is then ready for the market. When made by the "drum" system, the desired uniformity is even more thoroughly assured by putting the steeped grain in large revolving drums which keep it constantly moving as it grows.

Barley is the grain chiefly malted, but rye, oats, etc., are also so treated in considerable quantities.

Caramel Malt is that roasted especially dark.

The great commercial value of the Diastase thus developed is its property, in solution under high temperature, of transforming starch, first into dextrin and then into a fermentable sugar. One part is capable of converting 2,000 parts of starch. Malted Barley or other grain contains only 1/800 part of the substance, yet this is sufficient to convert the starch of cereals of twenty times the bulk of the malt, as well as that of the malt, into fermentable sugar. The grinding of the grain in the manufacture of beer, whisky, etc., is to bring the Diastase more readily into contact with each minute particle of starch content.

The *Commercial Diastase* employed in baking and for some other purposes, instead of the malted grain itself, is a hard, white, solid substance obtained by

digesting the germinated grain in a mixture of three parts of water and one part of alcohol, then pressing and filtering.

MALT BREAD. See sub-head in general article on BREAD.

MALT EXTRACT: a nutritious and invigorating beverage growing in public favor. So many varying qualities are offered, some of them differing little from ordinary beer or ale, that merchants are best guided by the reputations of the firms marketing them.

True malt extract is a syrupy liquid obtained by the maceration and digestion of malt, generally barley malt, followed by filtration and concentration. It should contain from 70% to 80% residual extract, chiefly maltose, including about 2% diastase.

MALT LIQUORS. Within this classification come *Ale*, *Beer* and *Stout* (or *Porter*), described under special headings.

All malt liquors should be stored in a clean, dry place—a cellar preferably—with a uniform temperature of 44° to 50° Fahr.

MALT VINEGAR: is obtained from barley malt, beer, ale, etc. See VINEGAR.

MALT WINE: a tonic beverage obtained by the fermentation of a mixture of sugar syrup, brewer's "wort" (see article on BEER), hops and raisins.

MALTED MILK: is milk combined with extract of malted grain, reduced to a powder by the vacuum process. It is used as a pleasant and nourishing beverage, both hot and cold, as an addition to broths, etc., for invalids, and in many other ways.

MALTOSE: one of the "sugars" obtained by the action of malt or diastase on starch. See GLUCOSE.

MAMMEE, or **Mammee Apple,** or *St. Domingo*, or *South American*, "*Apricot*": a tropical fruit about the size of a small grape fruit, sometimes round and sometimes angular in shape. The thick outer rind and the central seedy pulp are bitter in flavor, but the intermediate flesh is aromatic and agreeable. It is eaten both raw and preserved. It is related to the *Mangosteen*, but not to the *Mammee Sapota* in spite of the resemblance in name.

MAMMEE SAPOTA or **Mammee** or **Sapota:** a large, generally oval-shaped, fruit of the Sapodilla family. Good specimens average a pound and upwards in weight. The skin is coarse in texture and light coffee-colored and granulated in appearance; the flesh is salmon-crimson in color, a good deal like that of a soft musk-melon in texture, and enclosing one, two or three long, generally shiny-black, seeds.

Mammee Sapota

MANDARIN ORANGE: a small variety of the tangerine type (see ORANGES).

Two Types of MANGOES

MANGO (*see Color Page*) : a fruit believed to be a native of Southern Asia but now grown in nearly all sub-tropical and tropical countries and found in many different shapes, sizes and colors. The kidney shape is the form most generally seen, but some are nearly round and others long and narrow, either crooked or straight. The size ranges from a little larger than the biggest plum up to a weight of four pounds or more. The color may be either red, green or yellow.

The quality varies as greatly as the other characteristics. The seed-stone of inferior grades is large and the flesh is so fibrous as to be of very little value, but in the best types the fibre is a negligible quantity and the stone is surrounded by a large mass of juicy, aromatic, generally orange-yellow pulp.

In addition to its use as a fresh fruit, the mango forms the basis of most Chutneys of East Indian type and is also canned and otherwise preserved.

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Picking Mangoes, Mexico

A majority of the mangoes imported until quite recently were of the poor, fibrous kinds—which compare to properly cultivated varieties as a crab apple to a

Seed of mango of fine quality—the fibres reduced to a short, felt-like covering

Seed of fruit of medium grade, but with fibres long enough to be somewhat objectionable

Seed of common wild mango, with fibre running through the entire pulp

Spitzenberg!—but there is to-day a constantly increasing supply of the choice fruits. The principal season is from April to the end of June—the fruit from Mexico, the West Indies, etc., arriving first and the Florida product a little latter. The best are those from India-style trees.

A little practice is needed to acquire the art of eating a mango gracefully, yet without losing any of the aroma which distinguishes it.

The best way of preparing a fine Mango for consumption

The fine fibreless varieties are the most easily eaten. Such fruit is best prepared by cutting through the skin and turning it back in a broad band, as shown in the accompanying illustration, or by making an X cut on each side, peeling the corners back as far as possible, and temporarily laying the skin in place again to prevent the aroma from escaping. The pulp can then in either case be eaten with a spoon, like a cantaloupe, turning the skin back as necessary.

A third method sometimes employed, but requiring considerable deftness and only appropriate for immediate service and consumption, is to halve the fruit lengthwise with a sharp knife, remove the stone and serve the two halves as one would cantaloupe.

With a less delicate fruit, a better way is to cut the skin in a circle around each end and make seven or eight lengthwise incisions from circle to circle. The skin can then be easily lifted in strips and the flesh cut off in sections, lengthwise, as, or just before, eating.

To slice a mango and let it stand before serving, as is customary for peaches, is to lose much of its delicate flavor—and to try to eat it out of hand in the nonchalant manner and care-free mind with which you tackle an apple, for example, is to wish you had gotten into a bathtub to perform the operation!

The principal objection that the fruit merchant has to the mango is that it is rather easily damaged in transportation.

MANGO MELON, or *Vegetable Peach*: a small round melon with yellow skin and white flesh, cultivated chiefly for domestic "Mango Pickles" and preserving.

MANGO PEPPER: a mild sweet pepper, yellow and waxy in appearance, highly esteemed in the South for pickling.

"MANGO PICKLES": a popular domestic title for pickled stuffed young melons (preferably Mango Melons), mango-peppers or cucumbers.

MANGOLD-WURZEL, or *Mangel-Wurzel*: a large coarse type of beet, grown principally for cattle food.

MANGOSTEEN: the fruit of a tree native to the East Indies, distinguished by long oval leathery leaves and a flower like a single rose. Many travelers award it

the title of "the world's choicest fruit." It is generally about the size of a small to medium orange, and in exterior appearance slightly suggests the pomegranate. Inside the thick pulpy rind, the flesh—a soft, juicy, rose-tinted or creamy pulp, enclosing the seeds—is divided orange-style. Its flavor, best uncooked, is sweet and slightly tart—enthusiasts says that it combines all the good qualities of the pineapple, grape, peach and strawberry, and physicians consider it especially wholesome. It unfortunately does not lend itself readily to transportation. *See* TROPICAL FRUITS *facing page* 586.

MANGROVE: a tropical fruit of sweet and pleasant flavor, eaten both fresh and preserved. A mild light wine is made by fermentation of the juice.

MANIOC or **Cassava:** a large, woody tropical plant botanically known as *Manihot,* whose roots furnish the Cassava-starch and Tapioca of commerce. It is variously known in the West Indies and South America as *Manioc, Mandioca, Cassava* and *Cassada,* as well as by various other titles, and as *Ubi Tanah* in Java and the Malay Peninsula, now the principal United States sources. The roots range in size from a diameter of one and a half to eight inches, and from eighteen inches to four feet in length, growing in clusters which average from five to ten pounds each but often reach thirty pounds and upwards.

PHOTO BY THE MINUTE TAPIOCA CO.

Manioc Roots

There are two principal types, the "sweet" and "bitter." Tapioca (described under its own heading) is generally made from the former, but both are equally valuable for the production of the commercial starch or "flour," which is the form in which the bulk of the importations is utilized in this country—in the manufacture of compressed yeast, as a sizing material, in the textile industries, for glazing twine, etc., as a laundry starch and in various other industries.

The Manioc root is an important native food in several tropical countries. In South America, a meal obtained by drying and grating is baked in thin cakes which are both nutritious and pleasing in taste. An interesting fact is that no water is added to the meal, sufficient adhesion being secured by the softening of the starch particles by the heat applied.

The Sweet Manioc is cultivated to a limited extent in Florida and other Southern States.

The juice of the Bitter Manioc gives *Cassareep* (which see).

PHOTO BY THE MINUTE TAPIOCA CO.

The Manioc Plant

MANNA: a species of sugar extracted chiefly from the Manna Ash, native to the mountainous parts of Southern Europe, by making small incisions in the stems. It is principally used medicinally. The best quality is known as Flake Manna.

The name "Manna" has also been applied to numerous special food preparations.

MANNACROUP, or *Manna Groats*: a kind of semolina or FARINA (which see). Another more expensive variety consists of the seeds of the aquatic *Manna Grass.*

MAPLE SUGAR and MAPLE SYRUP: are made from the sap of several varieties of the maple tree, native to the northern United States and Canada. The three chief varieties are the Rock Maple, which contains the largest percentage of sugar in the sap; the Hard Maple and the Soft Maple, the last-named containing the least.

The sap is collected by "tapping" the trees about three feet from the ground. The tap hole is bored about an inch deep with a three-eighth inch bit; the spout is driven into this, and a covered tin sap-bucket is hung on the spout. It is the wood immediately under the bark which gives the sap—the largest amount coming from the ring made by the growth of the tree during the preceding year.

The gathering season commences in the spring, generally during the month of March, just as the winter is breaking up and the general rule is thawing days and freezing nights. It ends when the trees begin to bud, as at that time the sap undergoes a change and the sugar content decreases.

The percentage of sugar varies from 1% to 4%, being affected by many circumstances—the variety of the tree, its location, the character of the soil, climate, etc. There are usually three or four "runs" during a good season and the first is generally the sweetest, averaging then from 3% to 4% of sugar. Each succeeding run is generally less sweet and in consequence the product is of a darker color because of the longer boiling required.

The quantity of sap depends to a great extent on the growth of the tree during the preceding summer and upon the weather conditions during the tapping season. Under good conditions, a tree large enough for two spouts will yield enough to produce three or four quarts of syrup or six or seven pounds of sugar.

After its receipt at the sugar-house, the sap is evaporated in sap-pans and syrup-pans to a syrup. For *Maple Syrup*, this product is strained, filtered and clarified by the addition of milk, cream or egg white and is then ready for the market.

Maple Sugar is made by condensing the syrup until of the proper consistence. It is then stirred and "grained" and poured into molds or tin pails and allowed to cool.

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Tapping a Sugar-Maple Tree

The evaporators vary in size according to local requirements—a machine two feet wide by eight feet long will handle the sap from three hundred trees. The largest made is six feet wide and twenty-four feet long, and will boil the sap from four thousand trees. The average Vermont sugar camp has from twelve to fifteen hundred.

Maple Sugar making now and Maple Sugar making as it used to be, are very different things—what the industry has gained in facility, it has lost in picturesqueness. The old style camp with its primitive appliances is no more. The kettle was long ago superseded by the "pan" and the latter again by the evaporator, and the trough has

become a mass of crumbling decay. The women and children are kept at home and no longer know the old-time delights of "sugaring off," though in the Arcadia of the past their services were not despised and the whole household set up its abode in the woods.

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Gathering the Sap in a Sugar-Maple orchard

The sap was collected then in troughs, each about three feet long, hollowed out of sections of poplars, and was conveyed to the kettles in barrels, from which it was transferred by scoops. There were five or more kettles, from ten to thirty gallons in capacity, and each was filled with sap and kept at the boiling point, the larger kettles being filled from the smaller as evaporation reduced the contents. When the sap was sufficiently reduced, the hot syrup was dipped out and passed through a flannel strainer into uncovered tubs, from which it was again poured into a large, thick-bottomed kettle for the process of "sugaring off," some milk and the whites of several eggs being added to it. Thus prepared, it was placed over a slow fire, and kept below the boiling point until the sediment and all foreign matter had floated to the top and been removed, becoming temptingly translucent. It was then exposed to a greater heat and gently boiled, the evaporation gradually bringing it to the point of granulation. Then the sugar-maker became all watchfulness, and it fared ill with those who distracted him, for if the golden liquid seething in the kettle boiled the least bit too much, it would become too dry, and if it boiled too little, it would be "soggy." He tested it constantly, plucking threads of it from his stirring-stick, and trailing them around in cups of cold water. While the threads yielded waxily to the touch, the sugar was not yet ripe; but as soon as one broke crisp between his fingers, the moment had come to take the kettle off the fire. As the sugar cooled, it crystallized round the sides, and gradually the whole mass, under a vigorous stirring, became granular.

In that way was Maple Sugar made years ago and when the sap flowed profusely the operations were continued through the night and the fires cast strange shadows in the woods. But to-day everything is "improved." In place of the hut of logs is a permanent sugar-house, furnished with many elaborate devices to prevent waste and deterioration. The sap collections are made with letter-collection regularity and if the grove is on a hill and the sugar-house is in a hollow, the sap, as it is gathered, is emptied into a "flume," down which it flows into a large reservoir within the building. A scoop or ladle is as anachronistic as a javelin! See *Color Page* opposite 368.

MARASCHINO: a famous liqueur which takes its name from the small wild black Marasca cherry, native to the Dalmatian Mountains, Austria, but found also in Italy, Greece and parts of Provence. The fruit is very sweet and aromatic and the kernel resembles the filbert in flavor. There are numerous commercial types of Maraschino which have departed from the original formula, but the true liqueur, the kind that made the name famous, knows no constituents except the Marasca cherry, white honey and clear syrup. The pulp and kernels of the thoroughly ripe fruit are crushed together and the mixture is emptied into vats, where it is diluted with a certain

quantity of white honey. Fermentation quickly sets in and is followed by distillation—which produces the crude Maraschino. This is allowed to rest for about a year and is then rectified several times until absolutely clear, mixed with clear white-sugar syrup and again sent to the cellars to mature, a full three years being required to produce the natural mellow strength so highly prized. The liqueur thus matured is the best quality ordinarily retailed. It continues, however, to improve in quality, and ascend in price, with still greater age, genuine old Maraschino being worth, even at the distillery, from two to three dollars a bottle—and at retail is of course very much more expensive.

The bulk of the output of the best grades is produced in the city of Zara, the capital of the province of Dalmatia, by distillers who receive the fermented mixture from various points in the cherry growing districts. It is generally marketed in wicker-covered bottles.

A great quantity of imitation Maraschino is made from other varieties of cherries, miscellaneous fruits, peach leaves, etc., but it does not possess the delicate flavor, or aroma, of the true product.

In this country, Maraschino is a popular liqueur for the preserving of whole fruits, as cherries, figs, etc.

See also general article on, and *Color Page* of, LIQUEURS.

MARGARINE: the English name for OLEOMARGARINE (which see).

MARIENBAD. See article on table and medicinal MINERAL WATERS.

MARINADE: pickle liquid, generally flavored, as with aromatic herbs, spices, etc. The term is best applied to vinegar and lemon pickle, but is also extended to brine.

MARJORAM: a garden herb of the Aster family. There are numerous varieties, the most desirable being the Sweet or "Knotted," Winter Sweet and Pot. Both the tops and leaves, green and dried, are used to flavor soups, dressings, etc. For drying, the branches are cut before the flowers open.

Common, or Wild, Marjoram grows wild in many parts of the country in the open fields. It resembles the cultivated types but is coarser in flavor.

MARKETS. The public market or fair is one of the links which connect 20th century civilization with the early history of the human race. Its origin is found in the first concerted attempt at commerce, and its initial history antedates the oldest records, yet the essential principles of the primitive market were the same which underlie the modern Exchange, and even the details of its operation were in all probability not unlike those of the fine modern markets of Continental Europe.

The employment of the terms "market" and "fair" overlap at many points and in general usage, but they are perhaps best differentiated by applying the word "market" to a public selling-place continuously open during all, or a considerable portion of, the year and devoted chiefly to the sale of provisions. The term "Fair" may then be specialized to signify a public selling-place for all classes of commodities—clothing, jewelry, etc., in addition to provisions—open only for a limited time—as the periodic Fairs which constituted so important a feature of life during the Middle Ages, and the famous modern fairs at Leipsic, Nijni-Novgorod, etc., referred to in the closing paragraphs of this article.

Halles Centrales, Paris—the market buildings on each side

The recognition of the desirability of a common interchange of goods seems to be instinctive among all races. When the Aztec country was disclosed to European eyes by the Spanish invasion of 1521, it was found that the greater part of the trade between city and country and the bulk of all classes of the retail business of large cities was transacted in markets and fairs. In his African explorations, Stanley found fairs in periodic or continuous operation in parts to which no white man had ever before penetrated, the natives journeying to them from considerable distances to exchange goods.

The public market was in former generations a noteworthy feature of American life, but it has in recent years lost its first significance. There are few communities in which the free open market-places are patronized by the general public, and no covered markets to which the general producer has access, the stalls of those still in operation being occupied by tenants much in the same way as are ordinary retail stores. The wholesale or commission merchant, together with the retailer, have absorbed the place the market formerly held in public service.

New York retains several of its old markets—Fulton, West Washington, etc.—and meat, fish and general produce merchants do a big business in them, but the character of the custom has changed from exclusively retail to largely wholesale. The same remarks apply to Philadelphia and Boston. A considerable percentage of the sales in the Baltimore and New Orleans markets are at retail, but their accommodations are not accessible to the general producer.

American conditions are paralleled in England, but a strong contrast is found in Continental Europe, where markets of general use are found in all important cities.

The finest markets in the world are those grouped in the Halles Centrales of Paris—ten large halls, covering a total of 365,000 square feet and divided

according to the character of the supplies—butcher's meat in one, fish in another, etc. About one-third of the space is devoted to wholesale and the balance to retail purposes. Lining the thoroughfares between the halls—some of the spaces open and some covered—are stands for fruits, vegetables, flowers, etc., and underneath are cold storage cellars for the use of producers on payment of a small fee. The annual sales reach large figures—an average of 100 million pounds of meat, 50 million pounds of poultry, 70 million pounds of fish, 50 million pounds of butter and cheese—and other items in proportion.

The Halles Centrales retain the first feature of the market or fair in that the producer and consumer are brought in direct contact. There are a great many permanent tenants, *titulaires de places fixes*, as in English and American markets, but in Paris they have no exclusive possession—ample space is reserved for all occasional or periodic vendors—any producer who desires may, by conforming with the regulations and paying the very moderate fees, occupy space and sell his goods. If he cannot spare the time to come into the city, he can ship his goods to any of the official salesmen, to be disposed of at auction, the only charge being a small commission on the sales. These salesmen are appointed by a municipal official and their methods are rigorously inspected and controlled.

Numerous smaller markets in other parts of the city supplement the service of the Halles Centrales.

The famous old Butter Market at Cork, Ireland, is another institution worthy of mention as one of the best regulated of its kind. All the butter exposed for sale

The Fish Market, Halles Centrales, Paris

Collecting the Sap of the SUGAR MAPLE

is tested, in bulk and without any name attached, and branded First Quality, Second Quality, etc., by a market committee, whose members also belong to the Common Council. No favoritism can be shown, as the committee are ignorant of the ownership of the butter they inspect. Merchants residing in any part of Great Britain can forward their orders for so many packages of certain qualities to local brokers, who buy on the market, charging the purchasers a commission of about fifty cents for each one hundred and twelve pounds—the fee being regulated by the same committee. On the following day, the prices of all qualities are published in all the morning papers of Great Britain, the grocer being thus informed of the correct price of the quality he buys.

The greatest Fairs in the world are the Easter and Michaelmas Fairs at Leipsic, and the Russian Fairs at Irkutsk, in Siberia, in June, and at Nijni-Novgorod, in European Russia, in July. At Irkutsk, Russian and Tartar merchants gather to exchange and sell skins, iron, clothing, coffee, spices and a great variety of other articles. At Nijni-Novgorod, merchants from all parts of the world assemble to traffic in every imaginable commodity, the selling accommodations there including more than 2,500 booths.

MARMALADE: is a semi-liquid preserve, made by boiling the pulp or juice of thick-rind fruits, such as oranges, pineapples, lemons, etc., with portions of their rinds. The most popular is that of oranges, the Seville or Bitter orange being employed for a majority of the best types.

In the manufacture of orange marmalade, the fruit are first prepared by picking off the eyes, washing in large tubs and halving and pulping by machinery.

After the separation of the rind and pulp, the latter is placed in machines which express the juice, and the rind goes to the cutting machines, where revolving knives slice it into thin rings and drop it into vats of cold water, which, as filled, are boiled by means of the steam coils in the bottom of each vat.

Peel and juice next go together into huge copper pans, half full of thick syrup of white sugar, and are boiled until the desired consistence has been reached. This process requires both care and experience, for if the fruit is over-boiled, the syrup will harden into candy, and if under-cooked, the product will mold.

Cans, glasses and stone jars are all employed as containers, but the last named is the most characteristic form.

The first record of the use of marmalade is found during the reign of Henry VII, the original "marmalade" having been made from the quince, the Portuguese name for which is *Marmelo*. It was in those days a choice rarity, served as one of the sweets which concluded the enormous ceremonial banquets of the age.

MARMITE: a brown extract of which yeast juice is the principle. It resembles beef extract in flavor, color and stimulating properties. *Petite Marmite* (which see) is a popular French soup.

MARRONS: a variety of chestnut extensively cultivated in France and Italy. They are best known here in preserved form, either bottled in brandy or syrup or "iced" dry (in the latter case being known as *Marrons Glacés*) and are used in the making of various frozen and other fancy desserts, in fruit salads, etc.

Syrup Marrons are readily transformed into Marrons Glacés by exposing to the atmosphere for a few hours to allow the syrup to crystallize on them.

MARSALA: a famous Sicilian product. See ITALIAN WINES.

MARSHMALLOW: a plant native to both Europe and Asia which grows most freely in marshes near the sea. A decoction of the roots and other parts of the plant gives a tasteless, colorless gum, used medicinally as a demulcent for children, etc. The candy known as "Marshmallows," originally made from the plant gum, is now manufactured of sugar, corn syrup and gelatine.

Marshmallow

MARSH MARIGOLD, called *Cowslip* in the Eastern States: a common swamp or water plant which grows from eight to ten inches high. The flowers may be used for flavoring soups, stews, etc. The leaves, when young, make acceptable "greens," and the flower buds, pickled in salt and vinegar, are an acceptable substitute for capers.

MARTYNIA, or *Unicorn Plant*: a vegetable whose pods, distinguished by their long curved hooks, are pickled in the same way as cucumbers.

Martynia pods

MARZIPAN PASTE: a kind of almond paste used in the manufacture of fancy cakes and pastry novelties, for sale separate or mixed with high-grade candies, etc.

MASTIC: a very fiery brandy, distilled in various parts of Greece and several Oriental countries from the fermented residue of grapes or currants after the juice has been expressed for wine, the astringent flavor due to the crushing of the seeds, skins, etc., being enhanced by the addition of gum mastic, a product of the Mastic tree, a member of the pistachio family.

The *Peruvian Mastic* is the "Pepper Tree" of California, so named for the peppery flavor of its berries.

MAT: properly speaking, a texture formed of barks, rushes or reeds. Coffee and various other commodities are shipped in bags of such material—hence the term "mats" of coffee, etc. Part of the date supply is similarly packed, but the coverings are then known as "frails."

MATCHES. Prior to the beginning of the nineteenth century, matches were unknown. We read in Virgil, who lived in the Augustan period, that two centuries before the dawn of the Christian era, fire was obtained by rubbing decayed wood together with a roll of sulphur between two stones. Several centuries later, we have record of the use of a primitive tinder-box with flint and steel, and this method of producing a spark of light, elaborated and perfected, remained in vogue until comparatively recent years.

Phosphorus, the dominating ingredient of the composition employed for the heads of matches, was first discovered in the eighth century by an Arab named Bechel, but, owing to the lack of mechanical and chemical appliances, it could not then be made of

commercial or industrial value, and the utilization of its wonderful light-giving power was lost to the world until in 1669 a German named Brandt again brought it to the attention of mankind. Chlorate of potash, a great oxidizing agent, which, when utilized in conjunction with phosphorus, makes possible the production of the modern match, was discovered by a Frenchman in 1786. Burning glasses, dipping and match sticks, were all used in the onward march of progress, and in 1830 John Walker, a chemist of Stockton-on-Tees, England, produced the first successful friction match of which we have authentic record. These matches, named "Congreves," were sold in boxes of fifty for sixty cents, and their success soon led others to experiment in match manufacture, with the result that improvements were rapidly invented—the efficiency and reliability of the match increased and the cost of manufacture and the selling price decreased.

The match-making industry affords a striking example of the great economy in cost and excellence of product which has been accomplished, particularly of late years, by the development of labor-saving machinery. Of the many articles that are necessary to the comfort of modern existence, none is more nearly indispensable and there are few that are sold so cheaply. The rapidity and magnitude of manufacture may be judged from the fact that the largest factory in the United States, located at Barberton, Ohio, can produce two hundred million a day.

The process of match making, as conducted in a typical American factory, consists of the feeding of clear-grain white pine blocks to automatic machines, which cut the wood into smooth match sticks or "splints," and transport them for tipping through paraffin and composition chests, drying the chemicals by contact with the speedily tempered air, ultimately packing the matches into boxes, and, in some cases, even wrapping the boxes into packages ready for the trade.

Matches of present manufacture can be divided into three general classes:

(1) *Ordinary Strike-Anywhere Wood Splint Matches,* known to the trade as *"Lucifer"* Matches.

(2) *Safety Matches.*

(3) *Miscellaneous and Fancy Matches.*

CLASS NO. 1 may be subdivided into the following styles:

Double-Dip Parlor Matches, Safety-Head—capped with a sensitive, "strike-anywhere" tip, but with the head of "safety" type. Although new, they represent about one-half of the total domestic output.

Double-Dip Parlor Matches—with both the head and the tip made of the "strike-anywhere" phosphorous composition. These can usually be detected by the very high gloss of the composition. They are considered a dangerous product, owing to the percentage of combustible material incorporated in the head and they also have a penetrating odor, which affects many goods with which they are necessarily brought into contact.

Parlor Matches—with single, untipped head. This is the "old reliable" variety that has stood the test of time and still holds undisputed sway in certain sections of the country.

Sulphur Matches—with heads dipped first in sulphur instead of paraffin. They are still in demand in some places, but they are rapidly decreasing in popularity, because of the disagreeable odor engendered in burning. They are made in blocks, cards or combs and loose in ordinary boxes. They are sure lighters and while the sulphur is burning on the splint it is difficult to extinguish them.

SAFETY MATCHES are not supposed to ignite except by friction on a specially prepared amorphous phosphorous surface, obtained by painting one side of the match-box. They are sold principally in small boxes and are used in large quantities by hotels, railroads, etc., and the smoking public.

MISCELLANEOUS & FANCY MATCHES include Wax Matches, "Book" Matches and such varieties as "Flamers," "Blazers" and "Vesuvians," matches which cannot be extinguished by wind or water, etc.

Wax Matches are splints made of stearin and copal gum, capped with Parlor or Double Dip composition. They are not manufactured in the United States, but large quantities are produced in Great Britain, Belgium, France and other countries. They are more expensive than wood-splint matches and are sold here only to a comparatively small extent.

Book Matches are usually of the safety type, made of cardboard, or thin wood splints, enclosed in a cardboard cover. They are frequently distributed free for advertising purposes.

Under proper conditions, matches are not a dangerous article to handle or store, with the exception of Double-Dip Parlor Matches. If packed in well-constructed cases, they will stand a vast amount of abuse without ignition, and if ignition should occur, the gases generated smother and effectively extinguish the fire. Danger arises only when an accident results in a case being broken and the contents scattered. They are accepted by all railroad companies as an average risk.

With the same exception (that of the Double-Dip Parlor), modern, well-made matches of the best type and manufacture, do not materially affect by odor other materials stored in their vicinity, or even in direct contact with them.

The daily consumption in the United States is about 750 millions.

The largest single match factory in the world is the Vulcan, at Tidaholm, Sweden. It employs more than sixteen hundred men, and manufactures daily two and a half million *boxes* of matches.

MATÉ, or **Paraguay Tea:** the leaves and young shoots of a species of holly, *Thea Paraguayensis,* used universally in Brazil and also extensively in other parts of South America, in the brewing of a beverage which corresponds to the "tea" of other countries. The leaves are ground to a coarse powder and the shoots or twigs are broken into small pieces. Their collection and preparation is an important industrial occupation in both Brazil and Paraguay.

The title "maté," now generally employed, was applied originally to the vessels in which the tea is infused. These vessels, or bowls, are generally dried gourds, which in many cases have been carefully developed into a variety of curious forms. A small quantity of the leaves, properly called *Yerba Maté,* is put into the gourd, and it is then filled with boiling water. Each person holds a small tube called a "Bombilla," and with this he sucks up the infusion and passes the bowl back to be filled again for the next guest. One end of the Bombilla is finished with a small bulb of delicate basket work or perforated metal, which acts as a strainer to prevent the powder or other particles from being sucked up into the mouth. The beverage is very hot—much too hot indeed to be generally pleasant for novices!

The effect of the maté beverage is stimulating, restorative and diuretic, and because of these properties it is frequently prescribed for hospital use in countries in which it is otherwise practically unknown. An average analysis shows components

very similar to that of tea and coffee, including an important percentage of their stimulating principle (Theine and Caffeine).

More than 120,000,000 pounds of Maté are exported annually from Brazil, and 5,000,000 pounds from Paraguay, to other sections of South America, but it has never found favor as an article of general consumption in other parts of the world.

MATZOON: a fermented milk product. See ZOOLAK.

MATZOTH. See *Unleavened Bread* in article on BREAD.

MAW-SEED: a title frequently applied to POPPY-SEED (which see).

MAY APPLE: the fruit of the *Podophyllum peltatum,* a woodland plant of the barberry genus, commonly known as the American Mandrake. The latter title is unfortunate, as the Mandrake proper, a plant growing in Mediterranean regions, is poisonous and the connection of names has resulted in the May Apple also being popularly so considered—quite incorrectly, for it may be eaten freely with impunity. It deserves to be more generally known and used, its characteristic flavor being especially suitable for marmalades.

MAYONNAISE: a sauce or salad dressing composed of raw egg yolks beaten up with olive oil to the consistence of thick cream and flavored with vinegar, mustard or lemon juice, etc.

MAY-POP: the fruit of a small variety of the passion vine, growing wild in the South. It is excellent preserved, especially in jelly form. It is also known as the "May Apple," but that title is better reserved for the fruit of the "American Mandrake" (see MAY APPLE).

MAY-WINE, or *"Maitrank"*: a German drink of white wine, sugar and sliced oranges or pineapple, flavored with woodruff. In May and June it is a feature of country entertainments, prepared in a punch bowl with fresh woodruff or "Waldmeister."

MEAD, or **Honey Mead:** a fermented liquor or "wine," formerly held in very high esteem but now seldom seen, made from a mixture of honey or syrup and spices, herbs, etc.

MEAL: is any kind of grain coarsely ground, such as oatmeal, cornmeal, etc., described elsewhere under their respective headings.

MEAL-WORM: the larva of a winged insect which frequently does much damage in granaries, mills and stores where meal and flour are stored. It is generally shiny in appearance and of pale brown color. Cleanliness and care are the only preventives against its depredations.

Meal-worms are a favorite food for caged singing birds.

MEASURES. See tables of *Weights and Measures* in APPENDIX.

MEAT. In no one thing has the general consumer gained over his predecessors more than in the matter of fresh meats. It is not so many years ago that residents in small towns and country districts were dependent for fresh meat on an uncertain and fluctuating supply from the occasional or periodic slaughtering of one or two animals by local butchers—the result being that dried or salted meats were the mainstay of a large percentage of the population. To-day, owing to the many improvements in transportation, the invention of refrigerator-cars and other commercial developments, fresh meat can be obtained all the year round even in the most remote sections.

Groceries and meats are a good combination for a retailer, provided that the store is so arranged and equipped that the two lines do not conflict. People must buy general groceries frequently, and if they can secure their meats at the same place, there will be a saving of time and convenience, which must, if well managed, result profitably to the merchant.

It is, however, very unwise for a grocer to attempt to sell meats unless he has his store well fitted with proper refrigerators or cooling rooms, so that he can carry them without risk of deterioration.

The arranging and handling of the stock in order to make the most favorable impression on the buyer, is also of the greatest importance. Nothing is more detrimental to an establishment doing a critical business than dirty hands, bloody or soiled apron, greasy cloths and general untidiness on the part of the meat salesman. It is essential to hold in persistent remembrance the fact that the goods he is selling are those which customers expect to eat and that they should therefore be handled with scrupulous care and cleanliness.

The dealer who slights or overlooks these leading principles, will find his better class of trade going to other stores where employees endeavor to please a customer's eyes as well as his palate.

As a rule, it pays the grocer best to handle only the finer grades of meat. In selling, it is advisable to get the poor cuts disposed of as speedily as possible—the prime parts usually sell without special effort. From the standpoint of profit, the customers who buy the cheaper parts are just as important as those who pay high prices for the best cuts.

The correct temperature for the meat refrigerator or cooling room is a trifle *above* the freezing point—the result being "chilled" meat, which will remain in prime condition for a long time. Freezing or placing the meat in direct contact with the ice, results in loss of flavor. When meat has been frozen, it is best not to thaw it until near the time of actual use, as it spoils more easily than chilled meat.

In hot weather, the great enemy of the butcher is the fly, which leaves its eggs in moist crevices of unprotected meat. The eggs hatch and become maggots with surprising rapidity, hence a keen watch is necessary in order to arrest their development. Their presence does not necessarily signify that the whole piece is bad, but it is imperative to cut off the part into which they have obtained access and to rub all the exposed surface with brine or vinegar. The best preventive is to keep all, or nearly all, the stock in the refrigerator, only taking it out as required to show or cut.

The housewife who in warm weather finds that her meat has become tainted, can restore its freshness by cutting off and throwing the fat away and washing the lean in a solution of borax or bicarbonate of soda and cold water—a teaspoonful to a quart—and then sponging off with fresh water.

A summer household preventive of taint is to wash all meat as received in vinegar or to rub it over with salad oil.

Following are the U. S. Department of Agriculture definitions of the various classifications of meat:

Fresh meat is meat from animals recently slaughtered or preserved only by refrigeration.

Salted, pickled and *smoked meats* are unmixed meats preserved by salt, sugar, vinegar, spices or smoke, singly or in combination, whether in bulk or in packages.

Manufactured meats are meats not included in the preceding definition, whether simple or mixed, whole or comminuted, in bulk or packages, with or without the addition of salt, sugar, vinegar, spices, smoke, oils or rendered fats.

See also articles on Food Values, Beef, Lamb, Mutton, Veal, *etc.*

MEAT EXTRACT: a term which in popular usage embraces several products differing considerably in character. That best known and most widely used in the preparation of "beef tea" is the commercial meat or beef extract obtained by simple boiling, straining and evaporation without the addition of other ingredients. It consists principally of "extractives," or meat flavor, together with a certain proportion of mineral salts. The fat is removed, as it would in time render the extract rancid, and nearly all the valuable albuminoids are also lost—they coagulate during the stewing of the meat and are strained off together with the fibrine, etc. Dry albumin is added to some preparations in the final processes, but no attempt is made to carry through the natural beef albumen as, under the conditions in which meat extract is ordinarily made, marketed and used, it would readily decompose and spoil the product.

The extract should furthermore contain as little gelatine as possible—gelatine is so much lower in value that it is not profitable to buy it at the extract price! This loss is, though, not of much moment, as gelatine has comparatively little nutritive value.

Meat extract of the type described, was formerly rated as a condensed food product of high nutritive value. That position has been entirely abandoned and it is now acknowledged that it is entirely inadequate to support life, but it has retained great importance in both the medical and commercial worlds on the more solid foundation of its indisputable merit as the basis of an agreeable and thoroughly wholesome beverage of mildly stimulating properties. Physicians find it a valuable adjunct in the care of invalids and convalescents, and its meaty taste often lends zest to the necessarily restricted diet of the sick room, exercising a highly beneficial effect by enabling the digestive organs to extract more nutriment from other foods. It is especially useful for mixing with milk—persons who cannot assimilate plain milk can nearly always digest it when flavored with a little beef extract. Its other uses include its employment in large quantities to give a relish to the condensed foods, such as those made from pease-meal, carried by army commissaries, and its similar familiar employment in the kitchen to enhance the flavor of soups, sauces, etc. It is worth remembering that extract of meat contains those flavoring properties to which is principally due the higher market value of the choice cuts.

Many almost worthless preparations are, however, sold as "meat extracts" and it is advisable to confine purchases to houses of known reliability.

For a number of years after its first introduction, the greater part of both the European and American supply came from the Argentine Republic, in which country

the Liebig Company, the original manufacturer, established its first factory. The United States is now one of the principal producers.

Home-Made Beef Tea, Meat Juices, etc. In contrast to that from commercial Meat Extract, home-made "beef tea," as generally prepared, is entitled to rank as both food and stimulant, as it contains a fair percentage of protein and fat, in addition to the gelatine and "extractives."

Somewhat similar value attaches to properly made commercial preparations of meat juices or "meat extracts," obtained by pressure of the raw meat and then preserved without cooking.

A third class contains the soluble albumoses (peptoses) of the meat predigested—*i. e.*, digested by artificial means. The best of these offer food values in important percentages, but their use should be regulated by medical advice.

In spite of the fact that most people enjoy—or at all events do not object to—the strong flavor of the best extracts, their taste and odor are sometimes found quite offensive by those possessing especially delicate palates. When this objection is found by a patient, it can be obviated to a considerable extent by putting a little butter, a piece of toast and plenty of salt in the hot beef tea.

Beef tea should always be served hot—if drunk cold, or nearly so, its stimulating property is much reduced.

Following are the standards for meat extracts and similar products adopted by the Association of State and National Dairy and Food Departments and the Association of Official Agricultural Chemists.

(1) *Meat Extract* is the product obtained by extracting fresh meat with boiling water, and concentrating the liquid portion by evaporation after the removal of fat, and contains not less than 75% of total solids, of which not over 27% is ash and not over 12% is sodium chloride (calculated from the total chlorine present), not over 0.6% is fat and not less than 8% is nitrogen. The nitrogenous compounds contain not less than 40% of meat bases, and not less than 10% of creatin (a compound found in muscular flesh) and creatinin.

(2) *Fluid Meat Extract* is identical with meat extract, except that it is concentrated to a lower degree, and contains not more than 75% and not less than 50% of total solids.

(3) *Bone Extract* is the product obtained by extracting fresh trimmed bones with boiling water and concentrating the liquid portion by evaporation after removal of fat, and contains not less than 75% of total solids.

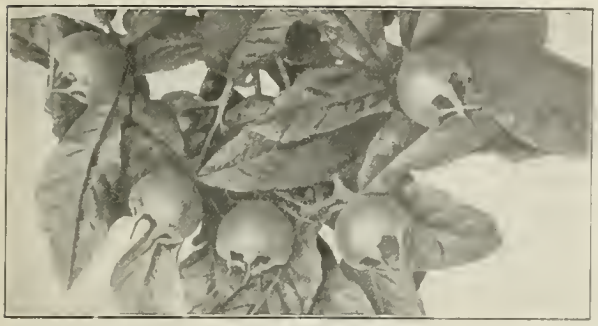
(4) *Fluid Bone Extract* is identical with bone extract, except that it is concentrated to a lower degree and contains not more than 75% and not less than 50% of total solids.

(5) *Meat Juice* is the fluid portion of muscle fibre, obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble proteins. The solids contain not more than 15% of ash, not more than 2.5% of sodium chloride (calculated from the total chlorine present), not more than 1% nor less than 2% of phosphoric acid and not less than 12% of nitrogen. The nitrogenous bodies contain not less than 35% of coagulable proteins and not more than 40% of meat bases.

MEAT PASTES: are used for sandwiches and similar purposes. See POTTED MEATS.

MUSKMELON

MEDLAR: a fruit which belongs to the apple and quince family, but looks more like a plum. It has the unusual characteristic that it is not edible until well *past* the ripe stage—the pulp is tender and of an agreeable sub-acid flavor when it commences to decay, whereas it is hard and bitter when ripe. It is eaten both raw and cooked.



Medlars

The juice of the raw fruit makes an excellent cold drink, and the flesh, cut up, is a pleasing addition to many mixed fruit and other beverages.

MELON. The principal divisions of the melon family are Watermelons, Citron melons (for preserving) and Muskmelons or "Cantaloupes."

The **Watermelon,** which is supposed to be native to Africa, is very extensively cultivated in all warm climates, in this country flourishing best on the warm soils of New Jersey and the Southern States. The numerous varieties differ considerably in coloring, shape and quality, but less attention is paid to such matters than in almost any other fruit. All that the average consumer desires is fair size and red, ripe flesh.

For consumption in the neighborhood of their growth, the thin-rind varieties are especially desirable, but for general market purposes the thick-rind types are preferable, as they stand transportation better. See *Color Page* facing 388.

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Gathering Cantaloupes, near Buffalo, N. Y.

The watermelon is popularly known by its green exterior and red flesh. There are, however, several kinds distinguished by their bright yellow flesh, the flavor and other characteristics being practically the same.

The white inside rinds are in the West largely prepared as a sweet pickle.

The **Citron Melon** is small, nearly round, with variegated shell and seedy flesh. It resembles the watermelon in the general appearance of the outside rind. It is not edible raw, but it forms a good base for preserves when boiled in syrup strongly flavored with lemon or ginger or both, etc.

Muskmelons were formerly divided into *Cantaloupes*, which term included only the furrowed, hard rind varieties, and *Nutmegs* or *Netted* melons—the netted soft rind types. General usage now tends to use the word "cantaloupe" as a class title for all kinds, distinguishing different types by style or locality prefixes.

The best varieties are the result of much experimentation in crossing. The "Rocky Ford" is, perhaps, the most noted of the present types. It originated in the vicinity of Rocky Ford, Otero County, Colorado, but it is now extensively grown elsewhere, especially in the Carolinas and Georgia.

A perfect Rocky Ford Cantaloupe should be about four and a half inches long and a little less in diameter. The *Color Page* opposite page 378 gives a good idea of its

general appearance. The silver-gray netting should stand out like thick, heavy lace, almost entirely covering the melon, excepting only the strongly marked slate-colored stripes running the entire length and terminating in a small "button." The groundwork of the skin should be light olive-green, turning slightly yellow as it ripens. The flesh should be thick, firm and smooth—never watery in appearance—and rich and melting in flavor. Near the rind the flesh should be dark green, shading lighter towards the seed part, which should be orange or salmon in color. The flesh is often mottled with the salmon hue and sometimes assumes it altogether. The seed cavity should be small and well filled with seeds or it will not ship or keep well.

Among other well known varieties are the Nutmeg, Osage and Baltimore. The last named is one of the most popular of the especially long varieties found in season in a majority of the best hotels, restaurants and homes of the larger cities. It is a thick, green, fleshy type of oval form and excellent flavor.

The first outdoor cantaloupes begin to reach the northern markets from Florida during the latter part of May. The crops from other Southern States follow in succession northward, immense quantities coming from Georgia, Texas, Arkansas, Carolina, Virginia, etc. The first Rocky Fords from Colorado are generally shipped about the first week in August, the season from that place lasting about two months.

As the cantaloupe is very perishable, it should be carefully handled. In purchasing, the housewife should avoid overripe, soft and bruised specimens.

Imported and Winter Melons. Among the "fancy" varieties of melons sold in the East are the:

"Golden" or *"Egyptian"* melon—imported from Egypt and received usually during the months of November, December and January. It weighs from ten to twenty pounds and is shaped like a long, narrow watermelon but has a yellow skin and flesh somewhat like that of a Rocky Ford cantaloupe.

Spanish Melon—imported generally from November to February, principally from the West Indies. It weighs from five to ten pounds and is rather more oval than round, the skin dark-green with bronze marks and the flesh yellow and very sweet.

French Melon—imported from June to September. It is shorter and broader than the Egyptian melon, weighing up to seven pounds, the skin rather heavily ribbed and netted like a nutmeg melon, with yellowish flesh.

Canadian Melon—received from August to the end of October. It is similar to the French melon, but weighing up to ten pounds, and the flesh varying from green to yellow. The choicest are grown in the vicinity of Montreal, their delicacy being attributed to special soil characteristics.

California Melon—in season from December 1 to the middle of January. It is similar to the Canadian melon and of about the same size. The inside flesh is generally a light green.

English Queen—a hot-house variety from England, weighing up to seven pounds, the skin netted and both skin and flesh yellowish.

Pomegranate Melon: a small, green-rind mottled melon about the size of an orange. The inside is pink and contains a plentiful supply of small seeds.

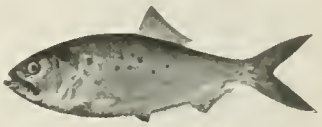
MELON D'ORPAGON, or *Petit Melon d'Orpagon*: a tiny seedless green melon about the size of a walnut, grown in Orpagon, France. They are put up in vinegar and have an agreeable sweetish-sour flavor.

MELON FRUIT: a local title for the North American PAPAW (which see).

MELON PEAR: another name for the PEPINO (which see).

MELON THISTLE, *Melocactus*: a cactus which takes its name from the resemblance of many varieties to huge muskmelons—the plants consisting of deeply ridged, round bodies, one to two feet in height. It is also called the *Turk's Cap,* as in the center of the top is a crown of spines filled with woolly fibrous matter, the flowers appearing half-way through the upper surface. The small pear-like fruit is in many cases edible and of agreeable flavor. The body of the "melon" is full of succulent matter, which is eagerly sought by cattle in times of drought.

MENHADEN: a fish somewhat resembling the shad, very plentiful along the North Atlantic coast. It is seldom eaten but is valuable commercially for the oil extracted, marketed as *Menhaden Oil,* and the residue is in demand as fertilizer.



Menhaden

METRIC SYSTEM. See tables of *Weights and Measures* in APPENDIX.

MEXICAN STRAWBERRY: the fruit of a member of the *Echinocactus* or Hedgehog Cactus family, of salmon color, about two inches long and one inch in diameter. It is much sweeter than the ordinary cactus fruit and the entire pulp is readily eaten, as the seeds, unlike those of the Prickly Pear, are as small as strawberry seeds.

The Hedgehog Cactus takes its name from the long spines which cover its generally globose or oval body. The plants often reach enormous size and many of them bear large showy flowers of great beauty. The spines are used in Mexico as toothpicks and for various other purposes.

MICRO-ORGANISMS or **Microbes.** Within the scope of this subject come a large number of minute forms of vegetable life of the *fungi* order. Those which affect human foods and digestion may be divided into three classes under the titles of *Molds, Yeast* and *Bacteria.* The appearance of *Molds,* or moldiness, is familiar to everyone. *Yeasts* are too small for single specimens to be seen without the aid of a microscope, but in a mass, of hundreds of thousands or millions, they are handled by the general public in the form of yeast cakes. *Bacteria* are still more minute and the average consumer never attains a personal acquaintance with them, but the effects of their existence are observable all around him. Molds propagate by means of spores or seed dust; Yeasts produce new cells by "budding," and Bacteria principally by the division of mature cells. With a few exceptions, Molds seem to serve no good purpose in the human food supply. Yeasts are responsible for all kinds of fermentation (as popularly understood), both desirable and otherwise. To Bacteria is due much of the enjoyable flavor of many of our foods, but their uncontrolled presence is the cause of all real putrefaction and decay.

Mold spores and Yeast and Bacteria cells are present everywhere—the middle of the ocean, the center of a desert and regions of extreme cold alone excepted—and are especially numerous in the vicinity of human habitations. Any food into which they fall, if it affords suitable soil and temperature, is speedily rendered unfit for human use—in

spite of their value under certain conditions—hence the danger of exposing foods to the atmosphere, the advisability of the speedy consumption of fresh foods and the importance of the cold-storage and canning industries. It is not any poisonous quality in the microbes themselves that accomplishes the damage—for with a few exceptions they are entirely harmless to the human system—but their growth, multiplication and life in food, change and break down its chemical structure and render it unsuitable and finally unfit for use. Cold storage retards the growth of all micro-organisms, and canning may be briefly described as the science of destroying by sterilization all those contained in the food used, and preventing by hermetical sealing the entrance of any others.

Special articles on each of these three classes of microbes will be found under their respective titles—*Bacteria*, *Molds*, *Yeasts*.

The word "mold" is not an accepted botanical expression, but it is employed as a useful term, widely used and understood, for describing the thread-like, branching fungi, the largest of the micro-organisms referred to in this article, which produce "moldiness." "Yeast" and "Bacteria," as here employed, are true botanical terms.

MIDDLINGS: coarse particles of the wheat grain, the residual product in the "bolting" of flour. It was formerly used only as stock feed, but is now recognized as the most valuable part of the grain because of its high percentage of gluten. See FARINA.

MIGNONETTE PEPPER: a term applied to peppercorns coarsely ground.

MILK. The value of milk as an article of food is clearly shown by the fact that it is sufficient to support, and to increase the growth of, the young of every species of mammalia. Examined by a microscope, it is seen as a transparent fluid in which float numbers of extremely minute transparent globules, consisting of fat surrounded by an albuminous envelope—its whitish, almost opaque appearance is an optical illusion.

Cow's milk—which is in this country exclusively understood by the general title of "milk," though in some parts of the world the milk of goats, ewes, mares and various other animals forms an important part of the human diet—varies in composition from 84% to 90% water and 10% to 16% "solids." The solids include from 2% to 7% fat, 2½% to 4½% casein, 2% to 6% sugar, a small amount of albumin, and small quantities of "ash" or salts of various kinds.

The *Fat* when extracted is what we know as Butter. The *Casein* is the main principle of Cheese. The *Sugar*, or "lactose," has the same chemical composition as the ordinary sugar of commerce, but is not so sweet.

The law generally requires from 3% to 3½% fat, and 8% to 9% of other solids. *U. S. Standard Milk* contains not less than 8½% of solids not fat, nor less than 3¼% of milk fat. Some milks will reach a fat percentage of 10%, but this is very unusual, the amount rarely exceeding 7%. The mixed milk of a large creamery seldom goes above 5% or below 3%.

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A Milk Pasteurizer

Pasteurized Milk is milk that has been heated—below boiling but to a degree sufficiently high to kill all pathogenic bacteria—and immediately cooled to 50° Fahr. or lower, to retard the development of any remaining organisms.

Sterilized Milk is milk that has been heated to the temperature of boiling water, or higher, and held at that point long enough to kill all organisms present, or that has been repeatedly pasteurized.

Modified or *Blended Milk* is milk modified in its composition so as to have a definite and stated percentage of one or more of its constituents.

Cream is milk containing a large percentage of the fat globules, generally from 15% to 25%. It is obtained by centrifugal separation or by permitting the globules to rise by leaving the milk undisturbed for a number of hours.

Skim Milk is that from which a part or all of the cream (fat) has been removed. *U. S. Standard Skim Milk* contains not less than 9¼% of milk solids.

"Sour Milk" is the result of the formation of lactic acid by the development of lactic bacteria (see article on BACTERIA). In spite of the general prejudice against it, it is a thoroughly wholesome drink, for the lactic acid prevents for a time the action of other bacteria which would speedily bring about putrefaction In Europe, milk is commonly soured in cellars for use, especially in summer, as a popular and refreshing beverage.

Buttermilk (which see) is the product that remains when butter is removed from milk or cream in the process of churning.

Milk Tests. Generally speaking, pure milk is of a slightly yellowish-white color, with little or no odor, and of a distinctly sweet and fresh taste. If allowed to stand for several hours, cream should rise naturally and should form from one-eighth to one-fifth of the total volume, and no sediment should be left in the vessel. In "rich" milk the proportion of cream may be as high as one-quarter. When poured from a tumbler, the milk should cling to the glass a little instead of running off clean like water.

Artificial coloring generally consists of annatto or coal-tar dyes. If any considerable quantity is used, its presence can generally be detected by noting the appearance of the milk when the cream has risen in the bottle. The *natural* color of milk is confined largely to the cream and there is consequently a noticeable difference between the color of the pure cream and that of the milk below it—the latter presents a bluish tinge. *Artificial* colors will generally tint also the milk below the cream.

There are several instruments in use to detect adulteration and ascertain the comparative richness of milk, prominent among them being the LACTOMETER and the BABCOCK TEST (which see), but trained judgment is necessary to obtain conclusive results because of the variation in milk from different sources and at different seasons.

Care of Milk. Milk should be kept at a low temperature, below 50° Fahr., and apart from all articles of strong smell. Every receptacle employed in handling it should be scrupulously clean. The necessity for absolute cleanliness in its care should be impressed particularly upon those who have the care of children.

Many glass jars are sent to the grocer's for milk with a dingy coating on the inside—this is inviting sickness. Glass receptacles of any kind which have held milk, should be first thoroughly rinsed in cold water and then washed in hot water to which a little ammonia has been added.

See also article on CONDENSED MILK.

MILK CHOCOLATE. See article on Cocoa and Chocolate.

MILK POWDER: is desiccated milk, either "whole" or "skim," sold in bulk and canned. It is used principally by bakers and manufacturers of milk chocolate. "Whole milk" powder contains from 25% to 27% fat, 30% to 32% protein and 30% to 32% milk sugar.

MILK SUGAR: is made from the whey obtained from cheese factories, or by coagulating skim milk. The whey is digested with aluminum hydroxide and chalk and then filtered, the liquid obtained being concentrated to a syrup and stood in copper-lined tubs to crystallize, chips of wood being added to and immersed in it. The crystals which are deposited on the chips are considered the finest quality; those forming on the sides of the vessel are secondary in commercial importance. Milk sugar is produced principally in Switzerland and is largely used in the preparation of homeopathic remedies and in infants' foods.

MILK WEED or *Milk Vetch*: the general title of a widely distributed family of plants, growing wild in many sections, whose young shoots and leaves are excellent cooked as "greens." The shoots are generally marketed in bundles like asparagus. They are best in the early spring and are especially tender if blanched or grown in shady locations.

MILLET: is the smallest of the grains but is very abundant in product, each plant having a number of stalks and a single head sometimes giving two ounces of seed. Common Millet, the variety chiefly cultivated in this country, is broadly divided into Brown and Yellow grain. The former, used in the same manner as rice, makes good puddings, but the greater part of the domestic crop of all types is used as green fodder. The ripe seeds are also valuable as poultry food.

Millet

Imported millet—in Germany and Italy consumed in large quantities in soups and other forms—is of smaller grain types than Common Millet. The Yellow Italian is used here to some extent for puddings, but the bulk of the supply is retailed as food for cage birds.

Another variety, known as Guinea Maize, is common in Peru, furnishing there white flour of very pleasing flavor.

MILT: the soft (male) roe of fish.

MINCE-MEAT. The season for mince-meat opens about October 1, and continues as long as the cold weather. It is important to have a supply on hand before the actual demand sets in, rather than after it. In common with all mixed articles, it may be variously prepared, and much that is offered is so poor that most families prefer to prepare their own supplies. Several leading manufacturers, however, put up goods which cannot be excelled—their fruit is cleaned and handled by machinery and the other components also are selected and prepared with scrupulous exactness. Such products may be recommended as a great convenience under many circumstances.

MINERAL WATERS: are waters which contain unusually large quantities of the ordinary mineral ingredients, or contain minerals not generally found in ordinary water. They are roughly divided into "table" and "medicinal," but the division is not exact, as many of the milder and more delicate types are used for both purposes.

Table Mineral Waters are those which have little or no pronounced flavor and are only sufficiently alkaline to counteract to a certain extent the acids of wines, etc. Among the best known are Apollinaris, Clysmic, Poland Spring, Perrier, White Rock, etc. A greater proportion of mineral ingredients detracts from the palatable flavor of the water and also renders it unsuitable for mixing with wines, as it gives the beverage a "flat" taste.

Table mineral waters generally constitute an especially satisfactory line for retail grocers, both in margin of profit and because they draw a good class of trade. They are easy to handle if kept in a cool place and laid on their sides.

Medicinal Mineral Waters are those employed in the treatment of various disorders and diseases. They have been used as remedial agents from a very early period—the old Greek physicians had great faith in their curative powers, and the temples erected to Aesculapius were usually in close proximity to mineral springs. They may be generally classed as *Alkaline-Saline*, Carlsbad, Marienbad, etc.; *Alkaline,* Vichy, etc.; *Muriated*, Saratoga, Kissingen, etc.; *Muriated Alkaline*, Selters, etc.; *Lithia; "Bitter,"* Pullna, etc. (named from the flavors of their chief ingredients, sulphates of soda and magnesia), *Chalybeate* (containing iron) and *Earthy* (bicarbonates of lime and magnesia predominating).

The medical qualities of various mineral waters are undeniable—plainly so in the case of purgative waters and those containing lithia and iron—but the apparent efficacy of many kinds is attributable chiefly to the fact that in "taking the waters," visitors to the "springs" are drinking large quantities of innocuous liquid—stimulated to its free use by the example of others, local medical advice, etc. The result is frequently a very desirable improvement in physical condition, but the same purpose might have been achieved at home by the consumption of an equal quantity of ordinary pure water!

Artificial Mineral Waters are, if properly made, chemically correct reproductions of the waters whose names they bear. If from a first-class house they can be fully recommended, but it is wise to avoid dealing with irresponsible "mineral water" concerns, for their product is too often a fraud on both dealer and consumer.

The following list names the sources and principal ingredients of a majority of the best known waters, both table and medicinal:

AIX-LA-CHAPELLE, from warm springs at Aix-la-Chapelle, Prussia. Contains a considerable percentage of common salt and other sodium salts and sulphur.

AIX-LES-BAINS, from warm springs at Aix-les-Bains, Savoy, France. Contains magnesium, calcium and sodium (sulphates and carbonates). Employed externally for skin diseases, gout, rheumatism, etc.

APENTA, an aperient water from the Apenta Springs, near Budapest, Hungary. Its principal constituents are sulphates of magnesia and soda. Sold both sparkling and still.

APOLLINARIS, an effervescent table water from the Apollinaris Spring, Ahr Valley, Rhenish Prussia. Drawn from a rocky source at a depth of 50 feet.

BALLSTON SPA, from Ballston, N. Y. An effervescent water, tonic and cathartic, containing common salt and carbonates of magnesium and calcium.

Bear-Lithia, from Bear-Lithia Springs, Va. Contains carbonates of calcium and magnesium, etc. Used both as a table water and in the treatment of kidney trouble.

Bethesda, from Waukesha, Wis. Effervescent and mildly impregnated. Used as a table water and as a diuretic.

Blue Lick, from Blue Lick Springs, Ky. Contains sulphur and salt and possesses cathartic properties.

Bokert, from Bokert Springs, De Soto County, Missouri. Used in the treatment of kidney trouble.

Buffalo Lithia, from Buffalo Lithia Springs, Va. Contains sulphuric anhydride, lithia, etc. Used in the treatment of digestive and kidney disorders, etc.

Carlsbad, from warm springs in Carlsbad, Bohemia. Sulphated and strongly charged with carbon-dioxide. Employed for rheumatism, gout, etc.

Clysmic, from Waukesha, Wis. A sparkling table water of which calcium carbonate is the chief ingredient. Also used as a diuretic.

Contrexéville, from Contrexéville, France. A light mineralized water, containing sodium, magnesium and calcium. Used as a laxative and diuretic.

Friedrichshall, from Saxony, Germany. Contains sodium, magnesium and calcium. Used as a tonic and mild purgative.

Hathorn. See *Saratoga.*

Hunyadi János, from Budapest, Hungary. Contains sodium and magnesium sulphates and possesses cathartic properties.

Johannis-Lithia, from Zollhaus, Rhenish Prussia. Contains an average of two grains of lithia to a quart. Used in the treatment of kidney disorders, etc.

Kissingen, from Kissengen, Bavaria. A slightly laxative water used for disorders of the liver and the alimentary canal.

Londonderry-Lithia, from Londonderry Lithia Springs, N. H. Used as a table water and in the treatment of kidney troubles. Sold both sparkling and still.

Manitou, from Manitou Springs, Colo. Impregnated with alkalies and iron. Used as a tonic and cathartic.

Marienbad, from Marienbad, Bohemia. Used in the same way as *Carlsbad.*

Perrier, an effervescent table water from springs near Vergaze, in the south of France.

Poland Spring, from South Poland, Me Only slightly mineral. Used as a table water and as a diuretic.

Pullna, a strongly purgative Bohemian water.

Rhens, an effervescent, mildly alkaline table water from Rhens-on-the-Rhine.

Richfield Springs, from Richfield Springs, N. Y. Contains sulphur and is used in the treatment of skin diseases, rheumatism, etc.

Rubinat-Condal, from the Spanish Pyrenees. The principal ingredient is sodium, with minor quantities of magnesium and calcium. Used as an aperient.

Saratoga, a general name for a number of waters from Saratoga Springs, N. Y., including *Hathorn*, etc., some used for tonic and others for laxative purposes.

Selters or Seltzer, from Nieder-Selters, Prussia. Contains chiefly common salt and smaller quantities of carbonates of magnesium, calcium and sodium.

Sharon Springs, from Sharon Springs, N. Y. A sulphur water used for the treatment of skin diseases, rheumatism, etc.

St. Galmier, an effervescent table water from St. Galmier, Canton of Loire, France. The principal mineral ingredients are sodium and calcium.

WATERMELON

TAUNUS SPRING. Sometimes used as a class name for a number of mineral waters from the Taunus Mountains, Germany, including Ems, Wiesbaden, Selters, etc.

TEPLITZ, from warm springs at Teplitz, Austria. The most noteworthy principle is carbonate of sodium, with traces of magnesium and iron.

VALS, from Vals, France. Contains sodium, calcium and magnesium. Used in the treatment of dyspepsia and skin diseases and as a diuretic.

VICHY, from warm springs in Vichy, France. Contains sodium, potassium and calcium, etc., and minute quantities of arsenic and iron. Used in the treatment of rheumatism, kidney and intestinal disorders, etc.

VITTEL, from Vittel, France. Used both as a medicinal water and for special baths. There are three main springs—the water of *La Grande Source* is used as a diuretic; that of *Marie*, as a purgative, and of *Des Demoiselles*, as a tonic.

WHITE SULPHUR SPRINGS, from White Sulphur Springs, W. Va. A sulphur water employed in the treatment of skin diseases, catarrhal disorders of the digestion, etc.

WIESBADEN, from warm springs in Wiesbaden, Prussia. Contains a considerable percentage of saline matter and is employed for skin diseases, gout, etc.

YELLOW SULPHUR SPRINGS, from Yellow Sulphur Springs, Va. A cathartic water containing lime salts and sulphates.

WHITE ROCK, an effervescent table water from Waukesha, Wis.

MINT: a general name for a large number of perennial plants, the best known of which are Peppermint, Spearmint and Pennyroyal, cultivated chiefly for the essential oil which contains their aromatic and medicinal principles.

About 90% of the supply of *Peppermint* and *Spearmint* oils is produced and distilled in an area which has the city of Kalamazoo, Mich., for its center and within a seventy-five miles radius from that city. Their chief uses are in medicine, confectionery, chewing-gum, liqueurs (as *Crème de Menthe*), etc. The annual consumption of Peppermint is about 300,000 pounds; that of Spearmint about 25,000 pounds. Spearmint leaves are also used for mint-sauce and other culinary purposes and for the flavoring of beverages such as Mint Julep.

Spearmint

Pennyroyal was at one time extensively employed medicinally, but it is now grown only in comparatively small quantities and is used almost exclusively for seasoning.

For oil extraction, the plants are cut down when mature and in full bloom, and allowed to cure like hay. They go next into large wooden vats through which steam is forced, the heat rupturing the oil cells and permitting the oil to escape with the steam. The oil is separated after the condensation of the steam.

Dried Mint is retailed in packages, bottles and cans. It should always be kept in a dry place.

Mint is easily grown under almost any conditions and is a heavy producer—a bed three feet square will give a surprisingly large quantity. If to be used as a dried herb, it is best to cut the stalks just prior to full bloom and to spread them out in a shady location where they can dry slowly.

Mint Extract. U. S. Standard mint extract contains not less than 3% of mint oil.

MIXED-PICKLES: a vinegar pickle which includes a variety of vegetables, as cauliflower, onions, etc.

MOCK-TURTLE (thick): a strong flavored soup now sold in cans, containing diced calf's head meat, etc., in a thickened brown soup stock, flavored with various vegetables, herbs and spices, lemon juice, Madeira or sherry, etc. *Clear Mock-Turtle* is similar in flavor and character ingredients, but the liquid is of consommé type.

MOLASSES: is the syrup, or, as it is termed in the districts where it is manufactured, the "mother-water," that is separated from the crystals or grains of "raw sugar" in the process of manufacture (see article on SUGAR). It is also widely, but incorrectly, applied to burnt Sugar-house Syrup or "black-strap," the uncrystallizable residue left after boiling molasses to extract additional sugar from it. *U. S. Standard Molasses* contains not more than 25% water nor more than 5% ash.

The quality of molasses depends on the color, strength and treatment of the raw sugar from which it is obtained. The best is that from sugar made from the first crops collected previous to the copious periodical rains which occur where the cane is cultivated. It is generally of dark-brown color, but the best grades, those produced in St. Croix, Barbados, Antigua, Porto Rico and Louisiana, are of bright amber tint. The choicest qualities are listed commercially by the name of the place of production; ordinary types are graded as "open-kettle," prime, good, fair, common, etc.

In addition to its consumption in its natural condition and in various degrees of refining, large quantities of molasses are used in the manufacture of rum.

MOLASSES SUGAR: a trade term for the sugar obtained by boiling the molasses separated in the first manufacture of "raw sugar" (see article on SUGAR).

MOLD, or *Mould*: the common name for several varieties of minute, thread-like fungi which reproduce themselves by spores or seed dust. They grow on almost anything that is moist or damp and secluded from direct light-rays, but they flourish best on soft articles, such as bread, cheese, fruits, etc., which permit the threads to strike down into them. On harder substances, such as leather, they achieve only a stunted growth and are then popularly known as "mildew." Dampness, warmth and seclusion are the principal incentives for their growth—so dryness, low temperature and good air circulation form the best preventives.

Molds especially favor acid foods, hence their predilection for many fruits and the fact that even pickles put up in strong vinegar will mold if exposed to the air, though they are, until "moldy," entirely exempt from the growth of yeasts or bacteria.

Absolutely dry foods, as flour, crackers, etc., kept in a dry temperature, afford no soil for Molds—but any moisture in the air will speedily render them liable to invasion.

Special varieties of Mold are used in the ripening of Brie, Camembert, Gorgonzola, Roquefort, Stilton and similar cheese, but with this exception, they are not generally employed in the manufacture or preparation of food. Their propagation and growth—as of all micro-organisms—should always in any event be prevented by retailers and in the household.

During their first growth, Molds are generally soft and fluffy in appearance and white in color. As they develop and the threads stretch down into the article in

which they have taken root and branch out in all directions, the surface and other parts most affected soon present a dense mass. When they commence to "fruit" and form seeds, the general surface is changed to various colors—blue, brown, white, etc. —the most common being the bluish-green of the Blue Mold which particularly affects bread, cheese and other foods, as well as many other articles.

If allowed to continue its growth, Mold destroys the food by its own consumption and with the aid of bacteria, but in its early stages it does not render it unwholesome. The appearance of decay and the musty smell are unpleasant to the eye and nose, but Mold has not the putrefactive qualities of bacterial life and if the affected part is removed before the growth has continued too long and the remainder is subjected to baking or boiling, according to individual circumstances, the food can often be saved for use.

Mold spore is present everywhere. Moderately dry food can be saved from its growth by the exercise of proper care, unless the climate or surroundings are especially damp, but articles such as fruits, which are inherently moist and which cannot be frozen without injury, are very difficult to hold in a raw condition for any considerable length of time. Cold storage is the only sure protection, and then in many cases for only a limited term.

Thick-skinned fruits, such as apples, oranges, etc., may be kept for a comparatively long time without cold storage facilities if the conditions are favorable—if they have not been bruised, so as to let the mold get through the skin, if the cellar or other storage place is dry, cool and well ventilated, and if imperfect fruits are promptly removed and others are occasionally wiped off to remove mold spores and sweat. All these precautions are, though, insufficient for thin-skinned fruits, and the last is, of course, impracticable in the case of berries and other small fruits, the only recourse being to consume them as fresh as possible or to make them into sauces, jams or some other form of preserves.

MOLLUSCA: a division of the animal kingdom, which includes all invertebrate shellfish (see SHELLFISH).

MOOR-FOWL: a bird of the grouse family, also known as the Red Grouse. It is about the size of a small bantam hen, with upper plumage a deep varying olive-brown, front of scarlet and under-parts of grey and white, shading to pure white under the tail.

MOREL: an edible fungus, botanically of the truffle family, but from its habit of growth generally classed as a mushroom (see MUSHROOMS).

MORTADELLI: a large, smoked Italian sausage. See SAUSAGES.

MOSELLE WINES. See article on RHINE AND MOSELLE WINES.

MOSS: a class of small herbaceous plants, the term being generally applied to a number growing together in a mass. The title is also popularly extended to similar growths of other types, particularly to some Lichens and Seaweeds.

Among the "mosses" valuable as food, the best known are *Iceland Moss* (which see), a lichen; *Ceylon Moss* (see KANTEN) and *Irish Moss* (see CARRAGHEEN),

the last two being seaweeds. "Moss" or "Sea Moss" Farina is a prepared granulated food in which lichen or seaweed is the principal ingredient.

Moss is also employed by cooks and confectioners instead of isinglass, and by painters to make their size.

MOULD: a popular spelling of MOLD (which see).

MUCILAGE: an adhesive substance prepared from the exudations of various trees and plants (see GUM), from linseed, marshmallow roots, onions, etc., by the addition generally of an alkali solution. The same result can be obtained by long boiling in water.

A very serviceable mucilage can easily be made from onion juice—after a short boiling, a good-sized Spanish onion will readily yield on pressure a large quantity of very adhesive fluid. This product is used extensively in various trades for pasting paper on tin or zinc or even glass, its tenacity being surprisingly great and equalling the result of many of the more costly patent cements. Some of the cements sold by street fakirs at ten cents a bottle consist of nothing but onion juice and water—the bottle and cork cost a great deal more than the contents!

MUGWORT: a tall perennial herb with woolly leaves, formerly popular, both fresh and dried, as seasoning and for flavoring beverages.

MULBERRY: a berry very popular in Europe and very plentiful, but not quite so highly considered in this country. It is both wholesome and agreeable eaten raw, and is excellent for cooking, especially when mixed with some more acid fruit as apples, rhubarb, etc., in pies and puddings.

The Common or Black Mulberry, of which the big French Black Mulberry is the highest type, is a low tree of bushy growth, the fruit purplish-black, with dark red juice, decidedly aromatic and of sub-acid sweet flavor.

Another desirable variety is the cultivated Red Mulberry.

The White Mulberry has not the fine flavor of the other two varieties, but it is widely grown for silk worm food, its leaves being generally preferred to those of the Black and Red trees.

French Black Mulberry

MULLET. There are two principal varieties of the fish known as Mullet—the *Red* and the *Gray* or "*Striped*." The former, so named for the coppery color of the upper

part of its body, is found most plentifully in the Indo-Pacific, but also to some extent in Europe, where it is so highly considered for its firm, lean and delicious flesh that it brings high prices. It has indeed always been esteemed one of the epicure's greatest luxuries—in ancient Rome it was held in the most extravagant regard among wealthy patricians, good-sized specimens frequently fetching the value of their weight in gold.

The Grey Mullet, with upper body of grey or greenish hue, is less delicate in flavor and larger in size, averaging from five to six pounds market weight and reaching ten to twelve on maturity. In this country it is found on the Atlantic Coast and is in season from June to October.

MULLIGATAWNY: a highly seasoned, thick, East-Indian-type soup, of which curry-powder is the essential "character" ingredient. Meats, vegetables, mango chutney, cocoanut flesh, rice, cayenne pepper, etc., are variously employed and blended to suit the ideas of the cook or canner. The title is derived from two native words signifying "pepper water."

MUM: a strong sweetish beer, named after one Mumme, a brewer of Brunswick, Germany, who introduced it in the year 1492. It was a beverage of general European popularity until toward the close of the seventeenth century and is still largely consumed in Germany, especially in Brunswick.

MUSCADIN, or *Bullace Grape*: the cultivated *Fox Grape*, the largest variety of American grape, growing freely in the Southern States and Mexico. The highest type is the SCUPPERNONG (which see).

MUSCALLONGE, *Maskalonge, Maskinonge*: a large fresh-water fish resembling the pike, frequently weighing forty pounds and upward, in season from June to December. The White Muscallonge is generally considered the choicer, but some people prefer the somewhat coarser flesh of the Yellow variety.

MUSCAT, Muscatel: a rich grape, variously employed—for table purposes, both fresh and as raisins, and in wine and brandy manufacture. There are many varieties under cultivation, both "white" and red, the former being the more common.

The title is also applied to numerous sweet, strong, generally aromatic wines, varying in color from pale to tawny, prepared either wholly or in part from Muscat grapes—in France (see RIVESALTES), Italy, Austria-Hungary, Greece, Spain, United States and many other countries.

There is also a fine variety of pear known by the same title.

MUSCOVADO SUGAR: a trade designation for the "raw sugar" separated from cane juice other than by centrifugal machines (see article on SUGAR).

MUSH: the name generally given to cornmeal porridge, either eaten hot or left to cool and afterwards fried in slices. It is now prepared and supplied to the trade in tin pans holding about five pounds each. As the store article insures against lumpiness, burning, etc., the product enjoys a good sale in some sections.

MUSHROOMS: both in their own varieties and by general custom, in this country especially, present a curiously interesting study in contradictions. By the quantities which grow wild, and by the ease with which they may be raised, they would seem to be a food especially useful to the poor—instead, it is chiefly the well-to-do who eat them. They are overlooked or distrusted by country residents who can have them for the picking—yet epicures and the wealthier classes in the cities pay high prices for them and consider them delicious luxuries!

The general explanation is, that the majority are afraid of mushrooms because of the poisonous fungi which resemble them—yet many tribes of savages who are certainly not more intelligent in other respects, appreciate them and devour them in great quantities—the natives of Terra del Fuego, for example, live almost exclusively on mushrooms and fish.

Again, though mushrooms have been cultivated for at least two thousand years, and have been for generations raised in enormous and ever-increasing quantities in France, Italy, Russia, Australia, New Zealand and other countries, for home consumption and export, it is only within recent years that intelligible information concerning their growth has been generally obtainable here—there existed formerly an air of mystery on the subject, as though mushroom cultivation were a cross between accident and magic! England has been under a similar blight of misinformation and prejudice, though not to quite the same extent as this country.

Eastern countries are the greatest per capita consumers, with Japan and China well in the lead. Japan made an attractive exhibit of many varieties at the Chicago World's Fair, and both Japan and China export dried mushrooms to the United States and Europe.

The general title of "mushrooms" is here used, as popularly employed, to cover all kinds of edible fungi except truffles, though they vary considerably in shape, size and color. They are found in nearly all temperate regions and in every part of the world, growing wild most freely in the spring and autumn—in forests, orchards, vineyards and pastures. Many varieties are agreeable in flavor and rich in food value.

The mushroom is not, as generally understood, the plant or fungus itself—it is the fruit of the growth which produces it and which remains underground—a white or bluish mold called *mycelium* or "spawn," a network mass of thin thread-like roots or underground stems. The mushroom or "fruit," when mature, diffuses a quantity of the powder or "spores," generally dark in color, by which the fungus extends its propagation. Artificial cultivation of the mushroom by "spores" is slow and uncertain, so the "spawn," which is sold in both "cake" and "flake" form, is used instead.

Any place is suitable for cultivation which is moderately cool and moist, even in temperature and away from direct sunlight. A cellar is the best ordinary example, but growing on a large scale is generally done in caves, closed tunnels, abandoned quarries or specially constructed "mushroom houses"—usually wooden buildings partly below and partly above ground. The spawn is planted in beds of mixed manure and earth, with a final covering of the latter. When the crop is well under way, the beds are picked once or twice a day for every mushroom large enough for market, as they are choicer for eating before fully matured and while the "veil" over them is still unbroken—after that time they are generally used for catsup, etc.

The following list briefly describes the principal edible varieties. The *Orange, Brick Top, Rodman, Peppery Lactarius, Parasol, Ink Cap, Fairy Club* and *Oyster Mushroom* are shown on the half-tone page illustration opposite—as also the *Puff*

EDIBLE FUNGI — see also *Color Page* opposite 398

Ball described under its own heading. The *Common Mushroom*, *Boletus*, *Cantharellus* or *Chanterelle*, *Fairy Ring*, *Morel* and *Vegetable Beefsteak* are depicted on the accompanying Color Page.

Common or Cultivated Mushroom (*Agaricus Campestris*): the most generally acceptable type in this country and England, and the common *Champignon Comestible* of the French canned product. It is found wild during the late summer and fall in grassy places, manured ground, etc.—never in thick woods. The wild types grow either singly or in groups, but the cultivated often form large tufts. The fruit consists of a central stalk, generally cream or white in color and from two to three inches in height, supporting a rounded, table-like cap, varying in the color of its upper surface from white to a deep brown. The under surface of the cap is marked with gill-like projections, generally pink in the white or cream cap varieties, and grey-brown in the brown kinds, changing in the former to brown and in the latter to brownish-black—in dried specimens to almost or quite black. The flesh is white. It is served in many ways, both raw and cooked—being considered especially delicious broiled.

Button Mushroom. The most highly valued of this class is the French *Mousseron*, the true type of which is the *Champignon Muscat*, of the Agaric family. It is of medium size, the stem short, thick, full and swelling at the base; the cap thick, whitish-yellow on top and covered with a very dry skin. It grows most freely in greensward and on the outskirts of woods, and is one of the first to appear in the early spring. It is gathered when in the "button" or round stage and generally when the cap is quite small. On maturity it becomes bell-shaped. It is very pleasing in flavor and is marked by a distinct musk aroma which it retains even after drying.

Large quantities are imported, both dried and canned, in oil, etc., and there is an increasing output of the home-grown product. Care should be taken to avoid overcooking, as that destroys the musk odor.

For lesser grades of "button" mushrooms, many other varieties of both Agarics and Gymnopes are gathered in the button stage.

Orange (the French *Oronge*) or Orange Amanita (*Amanita Caesarea*): a large variety with cap usually nearly flat on maturity and of orange color. It is found generally in the sandy soil of thinly wooded districts during the summer and early fall and is distinguished from nearly all other edible varieties by the yellow color of its gills. The flesh is white with occasional yellow stains and of delicate and pleasing flavor. It grows abundantly in Southern Europe and is imported here canned in oil.

The Orange Amanita has been accounted a delicacy for centuries—as far back as the days of the Roman Empire.

Boletus (the French *Cèpes*). The several varieties of the Boletus family of fungi are distinguished from the ordinary mushroom principally by small tubes or holes taking the place of the gills under the cap. They find much favor in France and Germany, and grow freely in this country also. Among the best of the types commonly found are the *Granulated Boletus*, named for the small brown granules dotting the stem—the cap, which is from one and a half to four inches broad, varying widely in color; the *Rough Stemmed Boletus*, the stem roughened with small prominent reddish or blackish dots or scales, the cap varying from white to nearly black, and the *Edible Boletus*, one of the largest kinds, the cap, of varying color, ranging up to six inches broad. All three types find much favor in France and Germany, and the last-named is imported in considerable quantities, chiefly from France,

(1) Common Mushroom (4) Cantharellus (2) Morel
(3) "Vegetable Beefsteak" (5) Boletus (6) "Fairy Ring" Mushrooms

WELL KNOWN EXAMPLES OF EDIBLE FUNGI

preserved in olive oil, sauces, etc., being generally known by the French title of *Cèpes*. It is noted for its strong flavor.

CHANTARELLE: a variety of the Cantharellus family, which grows in nearly every part of the world and has always been highly esteemed in Europe. Its cap, generally convex but sometimes flat and even centrally depressed, is of varying and irregular shape, but it is distinguished by its beautiful, rich reddish-yellow or egg-yellow color, which extends to all parts of the plant except the white inner flesh. The gills are in the form of shallow folds growing down the stem. It is most commonly found in the woods in groups, but also often in open grounds.

MOREL, *Morchella* (the French *Morille*): most frequently found in forests and woodland swamps. It is known by its rather conical, deeply honey-combed, light yellowish-brown head, growing darker with age. It is excellent—tender and sweet—either stewed as a vegetable or in sauces, etc. Its principal types are the *Common*, *Delicious*, *Two-Spored*, *Conical* and *Narrow Cap*. Though here described among mushroom types, the "morel" botanically is more nearly allied to the truffle type of fungus.

BRICK TOP or REDDISH MUSHROOM (*Hypholoma Sublateritium*): resembling the Common Mushroom somewhat in general contour, but with stem generally longer and top more rounded and of a reddish color with pale yellow border. The gills change from creamy to olive. The flesh is creamy and of a pronounced almond flavor.

RODMAN'S MUSHROOM (*Agaricus Rodmani*): similar in many respects to the Common Mushroom. The cap is creamy, with brownish spots; the gills change from white to pink and then to dark brown; the stem is short, fleshy and thick, and the flesh is white with pinkish tint and of pleasing flavor. It is most frequently found during May, June and July in grassy grounds.

LACTARIUS: a genus marked by the milky or colored juice which exudes from the gills when broken. The *Peppery Lactarius* has a creamy-white fleshy cap, from three to ten inches in width, depressed toward the center. The gills are creamy white and exude a white milk when bruised. The flesh is lighter in color than the surface of the cap and is peppery in flavor and somewhat aromatic. Its favorite habitat is woodland during the summer. Another common type is the *Orange Milk Mushroom* or *Delicious Lactarius*, found in woods and damp mossy places. When young, its cap is convex, but as it matures it becomes flat and sometimes funnel shaped. In color, it is a mottled orange. The flesh is white tinged with orange, firm, delicate and nutritious, and the "milk" is orange colored. In size it varies, in the cap, from two to five inches in diameter.

HORSE or FIELD MUSHROOM (*Agaricus Arvensis*): resembles the Common Mushroom, but averages larger and may be distinguished by its hollow, somewhat bulbous stem. The cap when dried is apt to assume a yellowish hue.

PARASOL MUSHROOM or TALL LEPIOTA (*Lepiota Procera*). The cap, on top of a long stem with a bulbous base, is shaped like an open umbrella, the upper surface, three to five inches in diameter, covered with small scales and of a brownish, spotted appearance with a dark center. The flesh is thin, white and soft.

INK CAPS or INKY COPRINUS (*Coprinus Atramentarius*). The genus *Coprinus* are readily distinguished by their oblong caps, which do not open until they are about to dissolve into the inky fluid which gives them their popular name. They should be gathered before they show any sign of expanding and must be cooked without delay.

their flesh then being decidedly palatable. They are harmless even in the inky stage, but they do not present an attractive appearance by any means! The life of the Ink Cap above ground is very brief—it pushes through the soil in great numbers and develops and dissolves very rapidly.

Fairy Ring Mushroom, *Marasmius Oreades* (the French *Mousseron d'automne*): a small variety found principally in the autumn, in meadows, on lawns, etc., in wet weather or after heavy rains. It is so called because of its habit of growing in rings or circles. When young, the cap, from one to two inches in diameter, is reddish, yellowish-red or yellowish-brown, becoming paler in maturing or as its moisture evaporates. When dry, it is generally of a buff color. Its flesh is inclined to be tough except when fresh or young, but careful cooking makes it very palatable—broiled, pickled, in sauces, etc.

In many parts of France, the Fairy Ring is popularly known as the "False Mousseron" or "Fall Mousseron," because of its similarity in shape of cap to the Mousseron type (see Button Mushrooms, preceding).

Fairy Clubs and Corals. The genus *Clavariaceae* includes a number of fleshy, club-shaped and coral-like fungi, many of which are edible. Some of them are very beautiful, showing the most delicate shades of pink, yellow, violet, etc. They range from very small to several inches in height.

Tree Mushrooms. The most famous of tree fungi is the Liver Fistulina (*Fistulina Hepatica*), commonly known in Europe as "Oak Tongue," "Beefsteak Fungus," "Vegetable Beefsteak," "Beef Tongue," etc. Its cap, varying from two to six inches and more in breadth, has, when young, a rough reddish surface which reminds one of beef tongue, and the flesh is streaked with red and gives a reddish juice. Its taste when cooked bears a distinct resemblance to meat, and it yields a rich, brown gravy.

Another valuable variety is that known as the Elm Tree Pleurotus, which grows, attached by a side stem, most freely on stumps and dead branches, etc., of elm trees, though also found on other trees, such as the maple and poplar. Its cap, two to five inches broad, is generally whitish, often with a central tinting of reddish or brownish yellow. The flesh of young fruits is white, moderately tender and of agreeable flavor.

Of the same family is the Oyster Mushroom (*Pleurotus Ostreatus*), somewhat shell shaped, white or ashy or light brown on the upper surface and white or ashy on the under-parts, with white, rather tough, flesh. It grows on dead trees and wood, generally in the early fall, attached by a short side stem or directly to the wood without any stem at all. The shells vary in size, with a maximum width of about four inches.

A fourth important fungus of similar character is the Sulphury Polyporus, growing on wood and trees and in the open country. It is easily recognized by its clustered mode of growth and orange or yellow color. The caps are often five to six inches broad, overlapping each other in tufts or clusters. The flesh is about half an inch thick and soft and juicy when young.

Gathering, Preparation, Etc. It is easy for the experienced person to distinguish edible from poisonous fungi, but it is well for the novice to confine himself to those types with which he is familiar, even at the cost of rejecting some good varieties. It is wisest, in spite of the exceptions noted in the foregoing list, for him to discard all those which are brightly colored, which change color considerably when cut or broken, which have yellow gills or give a milky juice. He should also always avoid any specimen

of any kind which is infested by insects or in any degree decomposed, and should not collect mushrooms in the "button" stage, as when undeveloped it is more difficult to distinguish between those which are edible and those which are not. Morels and puff balls are safe to experiment with, as there are no poisonous varieties resembling them.

Receipts for preparing the "ordinary" mushroom are given in all cook-books.

Agarics, which include the Common, Rodman's, Horse, or "Field," and choice qualities of Button mushrooms, and *Orange Amanitas*, require only moderate cooking. *Chantarelles* and *Morels,* on the other hand, require long cooking—Chantarelles should also previously be soaked in warm milk for several hours. *Lactarius* should be soaked in a vinegar solution for several hours before cooking.

MUSKMELONS. See descriptive matter in general article on MELONS.

MUSKRAT: a small aquatic rodent found generally throughout North America, resembling the common rat in general appearance and the beaver in many of its habits. It averages the size of a small rabbit, its body attaining a length of 10 to 12 inches. Among its distinguishing characteristics are its partially webbed hind feet and its long scaly tail, laterally flattened. It is commercially valuable for its skin—dark brown fur above and greyish on the under-parts—which within recent years has risen greatly in market value, the supply seldom equalling the demand for its manufacture into overcoats, etc. Its flesh also is worthy of consideration, for, properly prepared, it makes an agreeable dish. The most generally acceptable method is to soak it in salt water for an hour or so, or overnight, then to cut it up and slowly stew it with a small quantity of pork, cut in dice, a little onion, etc. A considerable number of the little animals are marketed in the larger cities, especially in Canada, under their own name and various other appellations.

MUSSEL: an almond shaped shellfish, cheap and plentiful, found along the coasts. Many connoisseurs consider it as palatable as the oyster, but it has never yet attained full popular favor. It can be eaten raw like the oyster, but is generally cooked.

Bottled pickled mussels have recently found some demand.

MUST: the expressed juice of ripe grapes, before fermentation. The term is also sometimes applied to the newly fermented juice or young wine.

MUSTARD. The mustard of general use as a condiment consists of the crushed seeds of the mustard plant, native to England but capable of almost universal cultivation. The mature plant ranges from three to six feet in height and has bright yellow flowers. There are two chief varieties—the *White*, producing smooth, pale-yellow seeds, and the *Black*, with seeds smaller, more irregular and dark brown on the outside—though also yellow inside. In trade circles, the products are distinguished as "Yellow" and "Brown," but there is little difference in composition, and the retail product is generally a mixture of the two.

Black Mustard

Mustard was used medicinally by the most celebrated physicians of antiquity. As a condiment, it dates from the latter part of the sixteenth century, but it was little known until the year 1729 when an old woman of the name of Clements, residing in Durham, England, began to grind the seed in a mill and to pass the flour through the several

processes necessary to free it from the husks. She kept her secret for many years, selling large quantities throughout the country, especially in London. The product obtained the name of "Durham Mustard" from her residence in that city.

The manufacture of mustard at first consisted essentially of grinding the seed into a very fine flour, a bushel of seed weighing sixty pounds yielding twenty-eight to thirty pounds of Flour Mustard. Manufacturers, however, soon discovered that they could please the public palate better by modifying the pungency of the flavor, and the result is that to-day it is made in a great variety of styles, each establishment following its own formula for mellowing, blending, mixing, etc. Genuine mustard is easily obtainable, but it does not please the general taste as well as the prepared modified article.

In moistening or "mixing" dry mustard, or mustard flour, two main objects must be kept in view—first, to obtain the desired consistence; second, to make it perfectly smooth. To produce these effects, add the liquid in small quantities and rub and pound the mustard well with a spoon. The simplest form of preparation consists of mustard flour, moistened with sufficient water to produce the consistence of thick batter, with half a teaspoonful of salt added for each two ounces of mustard flour. Some people like fine powdered sugar included in the same proportion as salt. Vinegar and olive oil can be used according to taste, but some cold water is necessary for the first mixing in order to develop the pungency. If for immediate use, milk or milk and cream may be employed in place of either vinegar or oil.

The greater part of the prepared mustard now enjoying popular use and favor, consists of from 50% to 75% vinegar, flour-thickening and various condiments.

U. S. Standard Ground Mustard is mustard containing not more than 2½% of starch by the diastase method and not more than 8% of total ash.

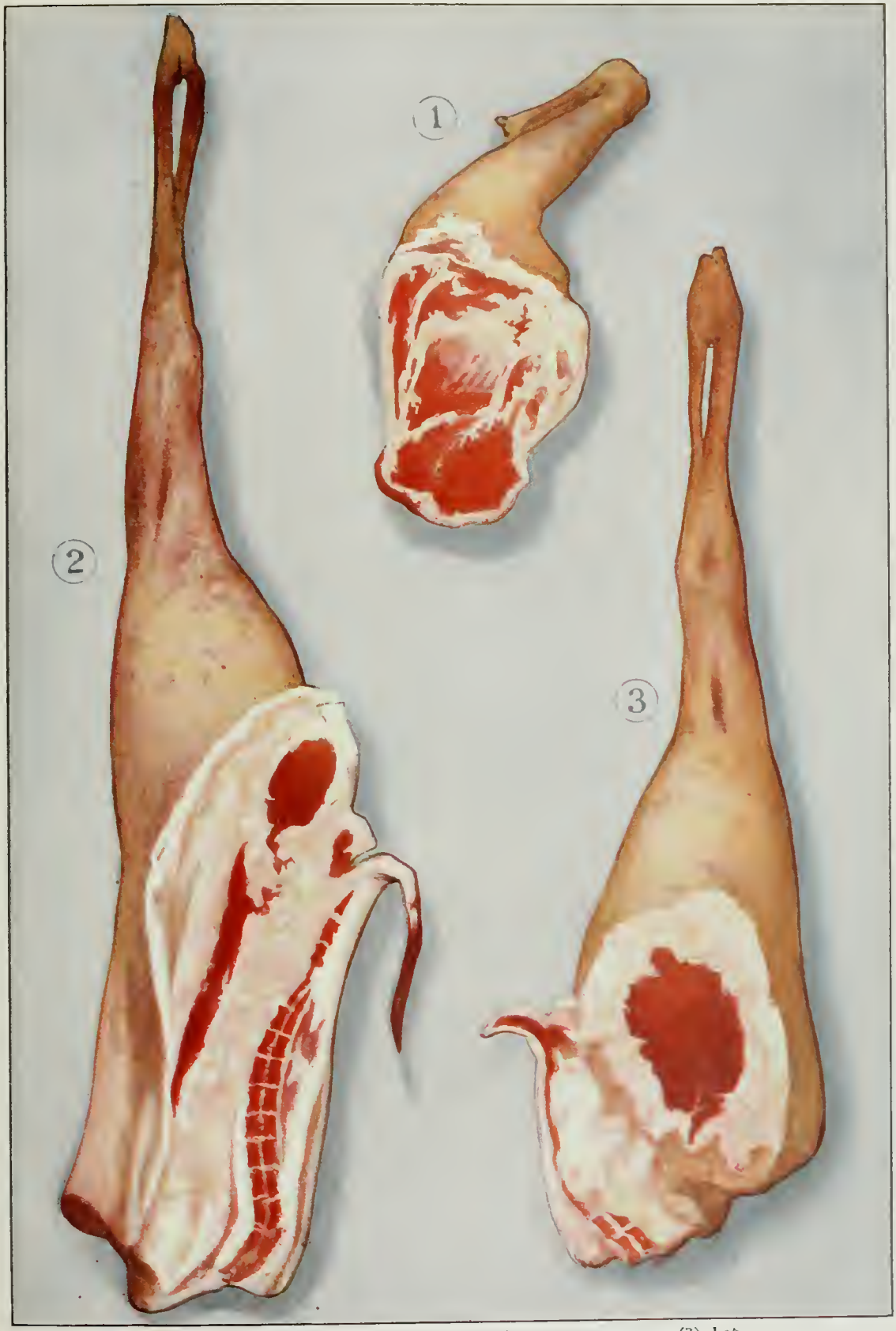
U. S. Prepared Mustard, German Mustard, French Mustard, Mustard Paste, is a paste composed of a mixture of ground mustard seed or mustard flour with salt, spices and vinegar, and, calculated free from water, fat and salt, contains not more than 24% of carbohydrates, calculated as starch, determined according to the official methods, not more than 12% of crude fibre nor less than 35% of protein, derived solely from the materials named.

Mustard and Cress: a salad, popular in England, made of young sprouts of the mustard and cress plants (see CRESS). The larger leaves of the mustard plant are sometimes used as "greens."

MUTTON: is the dressed flesh of the sheep. It is best from animals three to five years old. If too young, it lacks flavor; if too old, it is tough. It is best liked in the spring, as it is generally more juicy then and less liable to be marked by any "woolly" or "sheepy" taste. All mutton, in order to avoid this taste, should be hung up for at least two days before use—and should thereafter always receive close attention and be kept as much as possible from exposure to the air.

The quality depends both on the breed and the feeding of the sheep. In England and France these two points have received more attention than in the United States, but the domestic product is steadily improving and sheep raising is now an important industry in several states.

Much of the objection which many Americans feel to the use of mutton is due to the poor stock formerly sold here—many of the animals slaughtered were ill-fed,



(2) Hind Quarter (1) Shoulder (3) Leg

MUTTON

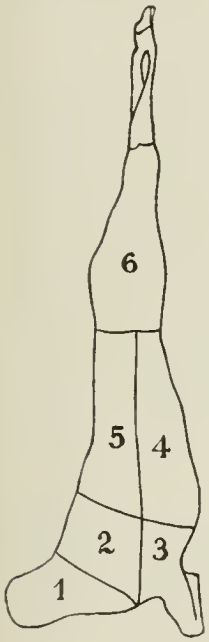
badly cared for and old. The meat of a young, well-fed sheep kept in a good refrigerator will seldom have any disagreeable flavor.

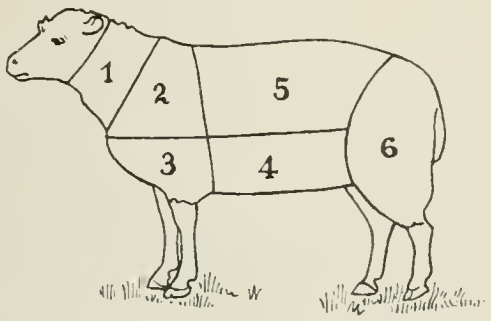
The most famous English product is the "Southdown mutton," the fine flavor of which is attributed to a little insect which flourishes in the fine pasture of the South Downs. In France, the best is the *Pré salé* ("Salt Field"), so-called because the sheep pasture on the salt marshes along the sea coast.

In purchasing carcasses, the grocer must take into account the loss of weight which will ensue from drying out while it hangs in his store. The better his refrigerating facilities, the smaller will be the loss.

In selecting, he should see that the meat is fine grained and firm and of darkish, clear red color, and the fat firm and white. If the flesh is flabby, or the kidney fat small, the carcass should be avoided.

Diagrams 1 and 2 show a division of the carcass practised in many parts of the country. Diagram 3 is a well recognized Eastern method.





Diagrams 1 and 2

1 Neck
2 Chuck
3 Shoulder
4 Flank
5 Loin
6 Leg

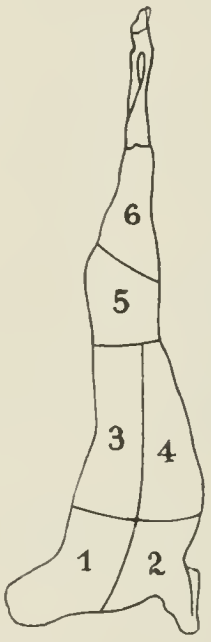


Diagram 3

1 Neck
2 Shoulder
3 Rack or Chops
4 Breast
5 Loin
6 Leg

Forequarter—1, 2, 3, 4
Hindquarter—5, 6

The description in the Department of Agriculture Bulletin accompanying Diagrams 1 and 2 comments on the fact that the cuts in a side of lamb or mutton generally number only six, three in each quarter. The Chuck includes the ribs as far as the end of the shoulder blades; the Loin reaches from the chuck back to the leg, and the Flank is made to include all the under-side of the animal. Some butchers, however, make a larger number of cuts from the forequarter, taking a portion of the Loin and Chuck to make a cut known as Rib; and part of the Flank and Shoulder for a cut designated as Brisket.

The term "Chops" is ordinarily used to designate portions of either the loin, ribs, chuck or shoulder, cut or "chopped" by the butcher into pieces suitable for frying or broiling. The so-called "French chops" are cut from the "Rack," a term sometimes applied to the Chuck and Ribs. See also *Color Page* opposite page 404.

MYRTLE: a small evergreen tree, whose sweet, pulpy and aromatic black berries are dried for use as a condiment, in addition to their consumption fresh. Both leaves and wood also yield an oil used in perfumery manufacture. The Chilian Myrtle is one of the most highly esteemed varieties.

The tree giving "Myrtle Wax" (see WAX), which is locally known as the "Tallow" or "Candleberry" Tree, is of a different species.

NAILS. There is no date in history fixing the first use of nails, but it is of curious interest that up to only a century ago they were still exclusively hand-made, and even as late as 1850 it was the general custom in this country for the nail maker with his forge and anvil to come with the carpenter to make the nails needed in the erection of a building. Iron has been the material chiefly employed for many hundreds of years, but bronze, brass and copper nails have been found in very ancient work.

The terms "4d," "6d," "10d," etc.—a mystery to many people!—originated when nails were sold by the hundred. When 100 nails weighed 2 pennyweights they were called 2d; when 100 weighed 20 pennyweights they were called 20d, etc., and the names have been retained although the comparative weights of the various sizes have changed greatly.

The first nail-making machinery was originated in Massachusetts in 1810 to make "cut nails" from steel or iron plates. Cut-nail machinery is to-day very similar to that first used, except that the plate, which must be reversed as each nail is cut, is now turned automatically instead of by boys as originally. The use of cut nails has been greatly reduced in late years by the introduction of Wire Nails, the first machinery for their manufacture reaching the United States from Germany in 1875. Wire Nails are in many ways superior to the square Cut Nail—they are easier to drive and cheaper to make—but it was discovered shortly after their introduction that they did not possess as great holding power. This defect was overcome in 1882 by Ira Copeland, of Whitman, Mass., who conceived the idea of coating them with vegetable gum, the result being to give them even greater holding power than the cut nails. Coated nails are to-day much used where exceptional strength is required, as in packing-boxes and other styles of shipping packages.

The word *Nail* is applied specifically to those of moderate length and weight, with flat heads of considerable diameter. Very small nails are known as *Tacks*. Those longer than six inches, or of exceptionally heavy shank, are called *Spikes*. Those with heads so small that they can be sunk beneath the surface of the wood in order to conceal the nailing, are classed as *Brads*—sub-divided into Flooring Brads, Finishing Nails and Casing Nails.

NAPTHA, *Naphtha.* See PETROLEUM.

NASTURTIUM, or *Indian Cress*: a plant native to South America, which is cultivated here principally for its brilliant blossoms. It possesses considerable merit as a salad plant, especially for blending with other salads, the leaves, young shoots and flower buds having an agreeably pungent flavor. The pickled seed-pods are frequently substituted for capers.

Botanically, the name "Nasturtium" is applied preferably to the Watercress.

Nasturtium

Tuberous-rooted Nasturtium: a variety which furnishes edible roots about the size of a hen's egg, of general cone-shape, marked with numerous warty swellings, and red-streaked yellow in color. Plain-boiled, they have an agreeable and refreshing aroma, but are rather watery and not particularly pleasing in flavor. In the mountainous districts of parts of northern South America they are considered a delicacy when frozen after boiling. In other sections, they are consumed in various forms after semi-drying and exposure to the air suspended in nets. In French market gardens they are cultivated to a limited extent in much the same way as the ordinary potato.

NEATSFOOT OIL: is a high grade industrial oil obtained from the feet of oxen, sheep, horses, etc. It is pale yellow, nearly odorless and of bland taste. It is commercially valuable because of its property of remaining liquid at a freezing temperature and it is therefore employed for lubricating exposed machinery, clocks, etc.

NECTAR: the fabled drink of the mythological deities. The name was formerly used to signify a mixture of wine and honey and it is still occasionally applied to similar sweet beverages of stimulating character. See also GREEK WINES.

NECTARINE: a delicate variety of peach, which is distinguished by the smoothness of its skin and its pulpy flesh. It is grown in this country chiefly in California and Oregon. There are many different varieties, divided, as peaches, into "Freestones" and "Clingstones." As a general rule, nectarines cannot be grown in the northern United States except under glass.

NEGUS: a well known beverage, named after its originator, Colonel Negus. It is made of either port or sherry, mixed with about twice its bulk of hot water, lump sugar, a little lemon juice, grated nutmeg and a small fragment of the yellow peel of the lemon. The flavor of the beverage is further improved by the addition of about one drop of essence of ambergris, or eight or ten drops of vanilla essence, for each dozen glasses.

NEROLI, or **Orange Flower Oil:** the essential oil of orange flowers, obtained by distillation, used as a flavoring for liqueurs, syrups, etc., in perfumery and soap manufacture and many other purposes. See *Seville Orange* in article on ORANGES.

NEUFCHATEL: a small cream cheese. See general article on CHEESE.

NIAGARA GRAPES: one of the four principal grapes of Eastern cultivation (see GRAPES).

NOODLES: which originated in Germany and have been in popular use there for centuries, resemble in general character the flat forms of Italian paste described in the article on MACARONI, their title being indeed an American spelling of *Nudel*, the German word for "Macaroni." They consist of dough of wheat flour, pressed through rollers into large thin sheets, cut into various sizes and forms by special machines and then carefully and thoroughly dried. They are retailed both in bulk and packages —chiefly in strips of three standard sizes, the smallest 1/16 inch in width and the largest ½ inch, but also in fancy shapes, "alphabets," etc. If properly made, they will

keep for six months or longer, if stored in a dry place and protected from changes of atmosphere. In the best qualities, eggs are added to the dough, the product being then known as *Eier Nudeln* or "egg noodles."

Until a few years ago it was the custom to import noodles from Germany, but domestic manufacturers now supply the market. New York, Philadelphia, Cleveland and a few other places are centers of the industry, which is of considerable proportions as housewives find it cheaper and easier to buy noodles than to make them.

Egg Noodles of the best grades, made of fresh eggs and selected wheat flour, are highly nutritious and are so easily digested even by delicate stomachs that they are frequently recommended for invalids and convalescents. The "fine" size is much used in soups, tasting particularly good in bouillon and consommé. The broader types are frequently served as a separate dish, cooked in slightly salted boiling water, or baked like macaroni with cheese, or stewed with tomatoes and butter.

Plain or water noodles are frequently colored to imitate egg noodles, so it is best to buy in original packages, giving the preference to those carrying a guarantee of their purity.

NOUGAT: a title given to several varieties of candy, usually a paste filled with chopped almonds, pistachios, etc., as *almond nougat*, etc.

NOYAU. See general article on LIQUEURS.

NUTS. Among the most popular nuts of general use are almonds, Brazil or Para nuts, chestnuts, cocoanuts, filberts, hickory nuts, pecans, pine nuts or pignolias, pistachio nuts and walnuts. With the exception of the Brazil nut, filbert and pistachio, all of these are now grown in the United States, the domestic product being, however, supplemented by imports to an annual value of nearly $10,000,000. California especially raises big crops of walnuts and almonds, and Louisiana and Texas are noted for pecans.

Of imported nuts, *Brazil Nuts* come principally from the Brazilian states of Para, Amazonas and Maranhao; *Chestnuts* from Italy, Spain, Portugal and France; *Cocoanuts* from the West Indies, Philippines and South Sea Islands; *Filberts* from Sicily and, better grades, from Naples; *Walnuts* from France, and also to a less extent from Spain, Italy, Turkey, Chile, etc., and *Almonds* and *Pistachios* from Spain.

Nuts can be carried safely in winter by storing in a cool, dry place, but cold storage at a temperature just above freezing is the only sure method of preserving them during the summer and the only practical policy if the quantity is considerable.

Nuts contain a large amount of nutriment in highly concentrated form. They are composed chiefly of oil and proteids, though some varieties substitute carbohydrates (starch, sugar, etc.), as the principal component in place of fat (see FOOD VALUES). Their constantly increasing consumption throughout the United States, augurs well for a better appreciation of their food value by all classes—they are no longer regarded merely as a luxury, or as something to be eaten out of hand at odd times. Sanatoriums are giving many patients nut products as the chief principle of their diets.

Nuts should be well chewed, and should be held in the same consideration as the meat or other substantial portion of a meal—not eaten as a delicacy after the stomach is already loaded with a heavy repast. To this latter practice is due much of their reputation for indigestibility. The skin of some varieties is leathery and hard to digest, but cooking may often be advantageously employed to offset this condition—when almonds,

(1) Butternut (2) Walnut (3) Black Walnut
(4) Brazil Nuts

for instance, are parboiled, the tough leathery skins peel off and the remaining kernel is easily assimilated. Drying must speedily follow the parboiling or loss of flavor will result.

Nut pastes and "butters" are rapidly growing in favor, both for home consumption and in confectionery manufacture. They are an agreeable and very desirable addition to the daily diet. They are best bought in small pots or glasses, as they are liable to become rancid if kept long after opening.

The composition of nuts and nut products has been studied at a number of U. S. Agricultural Experiment Stations, and the following table summarizes the results of this work, the American data being supplemented in some cases by European analyses.

	Water	Protein	Fat	Carbohydrates: Sugar, Crude Fiber, etc.	Carbohydrates: Starch, etc.	"Ash" (Mineral Salts, etc.)
	%	%	%	%	%	
Acorn (fresh)	34.7	4.4	4.7	50.4	4.2	1.6
Almond	4.9	21.4	54.4	13.8	3.0	2.5
Almond Paste	24.2	13.1	23.9	29.4	7.8	1.6
Beechnut	6.6	21.8	49.9	18.0		3.7
Brazil Nut	4.7	17.4	65.0	5.7	3.9	3.3
Butternut	4.5	27.9	61.2	3.4		3.0
Chestnut (fresh)	43.4	6.4	6.0	41.3	1.5	1.4
Chestnut (dry)	6.1	10.7	7.8	70.1	2.9	2.4
Chestnut (preserved)	18.2	1.3	.5	79.7		.3
Chincapin or water chestnut	10.6	10.9	.7	73.8	1.4	2.6
Chufa (earth almond)	2.2	3.5	31.6	50.2	10.5	2.0
Cocoanut	13.0	6.6	56.2	13.7	8.9	1.6
Cocoanut, desiccated (copra)	3.5	6.3	57.4	31.5		1.3
Cocoanut milk	92.7	.4	1.5	4.6		.8
Filbert	5.4	16.5	64.0	11.7		2.4
Ginkgo nut	47.3	5.9	.8	43.1	.9	2.0
Hickory nut	3.7	15.4	67.4	11.4		2.1
Litchi nut	16.4	2.9	.8	78.0		1.9
Paradise nut	2.3	22.2	62.6	10.2		2.7
Peanut	7.4	29.8	43.5	14.7	2.4	2.2
Peanut Butter	2.1	29.3	46.5	17.1		5.0
Pecan	3.4	12.1	70.7	8.5	3.7	1.6
Pine nut (American)	3.4	14.6	61.9	17.3		2.8
Pine nut (Spanish) or pignolia	6.2	33.9	48.2	6.5	1.4	3.8
Pistachio	4.2	22.6	54.5	15.6		3.1
Walnut	3.4	18.2	60.7	13.7	2.3	1.7

It will be noted that several varieties—the Spanish pine nut, the peanut and the butternut particularly—rank much higher in protein value than a majority of either animal or vegetable foods and that a number of others equal the averages of the best known examples.

The fat value is very high—pecans, Brazil nuts, butternuts, filberts, hickory nuts, walnuts, almonds, cocoanuts, pistachios, beechnuts, peanuts, etc., containing 50% or more—up to nearly 71% in the pecan.

Most noteworthy among the few nuts which offer a large percentage of carbohydrates and a small percentage of fat, are the dry chestnut and chufa.

Many special nut foods, such as malted nuts, meat substitutes, etc., have been devised and extensively advertised by manufacturers for general dietetic use and for the special needs of vegetarians and fruitarians. It is said that some of these products contain soy beans, but apparently the peanut is very important in their composition.

NUT OILS. Many varieties of nuts yield oils of value as food and medicine and for soapmaking and numerous other commercial purposes. Prominent among them are

the almond, cocoanut, peanut and walnut, all of which are treated in their alphabetical positions.

The principal sources of imported nut oils, other than that of the cocoanut, are China, Holland and France.

NUTMEG (see illustration in *Color Page* of SPICES). The nutmeg is the kernel of the fruit of a tropical tree, native to Asia, Africa and South America. The pink or red flesh covering it, is the almost equally popular spice known as *Mace* (which see). The whole fruit, about as large as a peach and of a yellowish-green color, is in the East Indies often preserved entire as a sweetmeat.

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Nutmegs, Kingston, Jamaica

The tree begins bearing at the age of eight years, and continues to yield for about seventy-five years. It carries ripe fruit at all seasons, but there are three principal harvest periods—July, when the fruit is most abundant, though yielding thin mace; November, when the fruit is thickest, but the nutmegs are small, and March, when both nutmegs and mace attain their finest condition, but the total product is less in quantity on account of the dryness of the season.

After the nutmegs have been gathered and stripped of their outer covering, they are placed upon gratings over slow fires and dried at a low heat, not over 140° Fahr., until the kernel rattles freely in the shell. The shells are next cracked and removed and the kernels are sprinkled with lime, to protect them from the attacks of insects and to destroy their power of germination, and then packed for export in tight casks, previously soaked and coated on the inside with limewash. In this condition they will keep for an indefinite length of time.

In purchasing nutmegs, choose those which are round and compact in shape, of oily appearance and heavy. They are graded and quoted by the number to the pound —varying from 80 to 140. The largest are the more showy, but those of moderate size, other points being equal, are just as good. Light, dried, dull kinds or those of long, oval shape, should be avoided.

Sift-top cans of ready-grated nutmeg find good retail demand and give satisfaction when the contents are pure and fresh.

The bulk of the United States supply—which is more than the total consumption of all other countries combined!—comes from Penang and Celebes, of the East Indies. There is also a small, steady importation from the British West Indies.

See also general article on SPICES.

(1) Pecan
(2) Pignolia (Pine)
(3) Filbert
(4) Li-tchi Nut
(5) Almond
(6) Paradise
(7) Hickory Nut
(8) Chestnut
(9) Pistachio

NUTROSE: a food prepared, principally for invalids, by the action of alkali on the dried casein of milk.

OATS (*see Color Page opposite* 676): a grain which has long been cultivated as food for men and horses. Its several varieties, White oats, Black oats, Potato oats and Pilcorn or "naked" oats, etc., all grow best in cold climates. See OATMEAL, following.

OATMEAL. The title "Oatmeal," though properly applicable only to the ground meal of the grain, is commonly applied indifferently to both ground and "rolled" oats. It was formerly retailed principally in bulk, but to-day package goods are almost exclusively used. The change has been of great advantage to both merchant and consumer, for oatmeal exposed to the air, as in the ordinary bin, is much subject to depreciation in flavor—and consequently in value. Unless packed in airtight boxes or bags it rapidly becomes "old" and acquires a disagreeably bitter flavor.

In manufacture, the grain is cleaned by various processes, next kiln-dried—which loosens the hull and also develops the nutty flavor of the kernel or "groat"—and then put through machines which remove the hulls. All forms of oatmeal are produced from the "groats" thus obtained.

For *Rolled Oats,* the groats go to heated rolls which flatten them into the flakes familiar to the consumer, the rolling being followed by additional cleansing processes to loosen and remove the fine particles of floury matter, etc., before the flakes are filled into the packages. Fully 90% of the present consumption of oatmeal in this country is of this semi-cooked "rolled oats" type, which owes much of its popularity to its easier preparation for the table.

Oatmeal other than Rolled Oats is divided into two classes: *Steel-Cut,* in three sizes, and *Ground,* graded from Coarse to Extra-Fine. Steel-Cut is obtained by passing the groats through special cutting machines. Ground Oatmeal is Steel-Cut Oatmeal ground between corrugated steel rolls.

The use of oatmeal, of the Rolled Oats type, is largely on the increase here, but it is not yet so extensively consumed as in many European countries. There is, however, an important foreign demand for the American product.

Oats are very rich in gluten and contain appreciable quantities of fat and sugar. In this country, the grain is used very little for human food purposes except as a cereal or as "groats" or "grits" in the preparation of gruel, but in other parts of the world it is employed in a variety of ways. It cannot be leavened into bread because it lacks the proportion of gliadin found in the gluten of wheat, but it makes excellent "cakes."

In Scotland, the most popular form of consumption is as "brose," prepared by stirring the meal with boiling water, or broth, etc., until it has the consistence of "hasty pudding." If more diluted and boiled for a longer time, it becomes "porridge." The coarse meal is also cooked in thick cakes called "bannocks," and finer qualities in thin cakes or wafers. Another palatable dish is made by toasting the meal before a bright fire, then mixing it with a little beef or mutton fat, pepper, salt and fine-chopped onions, and again toasting it.

In Ireland, oatmeal is mixed with cornmeal and then stirred into boiling water or whey and milk, the result being known as "Stirabout."

In Norway, a common food among the peasantry is a thin cake, called "flad brod," made of ground oats, husk and all, mixed sometimes with barley meal, potatoes or pea-meal, baked in a griddle or frying pan. See also article on CEREALS.

OFFAL: a word frequently applied to all parts separated from the carcass of an animal while dressing it for market.

The most important food items which come within the classification are hearts, livers, tongues, oxtails, oxlips, ox-palates and stomachs (tripe).

The items more correctly styled "offal" are those unfit for use as food—the *hair*, employed in making mattresses; the *skin*, which goes to leather tanneries; the *bones*, dried and ground for sale as fertilizer, used in refining, etc.; the *intestines*, which become sausage casings, etc. The white skin and bones also serve in the manufacture of gelatine.

OILS: are divided according to their sources as Animal, Vegetable and Mineral, or for various specific purposes, as Edible and Industrial, Cold Drawn and otherwise, Fixed and Essential, Drying and Non-drying, etc.

Animals Oils may be divided into those from (1) fish and marine mammals, as Menhaden and Whale Oil for industrial purposes, and Cod Liver Oil; and (2) land animals, as Lard Oil, Oleo Oil and Neatsfoot Oil.

The chief *Vegetable Oils* are almond, castor, cocoanut, corn, cotton-seed, hemp, linseed, olive, palm, palm kernel, peanut, poppy-seed, rape, sesame and walnut. *Cold Drawn* or Cold Pressed oil, the highest grade of vegetable fixed oil, is that obtained by the first expression, without heat or chemical additions. The general rule in the treatment of fruits and seeds which give edible oils, is to use cold-expression first to obtain the edible grades, then to extract the remaining oil-content after heating or chemical treatment, or first one and then the other, for industrial purposes. The hot-expression always changes the character of the oil and in some cases entirely alters the flavor.

Mineral Oils, as benzine, gasoline, kerosene, etc., are in this country obtained chiefly by the distillation of PETROLEUM (which see).

Fixed Oils are those which, under ordinary temperature, leave a permanent greasy residue on any substance, as paper, etc. The classification includes the majority of the vegetable oils of general use, the heavier mineral oils and all the animal oils.

Essential or *Volatile Oils* speedily evaporate in ordinary temperature. They are divisible into two main classes, vegetable and mineral. Vegetable essential oils, obtained from herbs, fruits, flowers, seeds, etc., are used in great variety by the perfumer (see PERFUMERY), in medical practice and in the manufacture of flavoring extracts for food purposes (see EXTRACTS). They are soluble in alcohol, ether and fixed oils, but only to a limited extent in water. The mineral volatile oils include the lighter Petroleum products.

Drying Oils—as hemp, linseed, poppy, walnut and some whale oils—are those which on contact with the air form a tough skin and are therefore suitable for use in the manufacture of paints and varnishes. Castor, corn, cotton-seed, rape, sesame, sunflower and most whale oils, are Partial or *Slow Drying*. Almond, lard, mineral oils, oleo oil, olive, peanut and sperm oils, are *Non-Drying*. In temperate climates, cocoanut, palm, palm kernel and kindred types are nearly solid fats.

OIL-CAKE: is made from the pulp remaining after the extraction of oil from cotton-seed, linseed, etc. When the extraction is confined to the use of presses, the cakes

make excellent cattle food, as the residue contains some oil. If all the oil has been removed by a supplementary chemical process, they are suitable only for use as fertilizing material.

OKA: a plant native to Peru which is worthy of more extensive cultivation in this country—it has already made a place for itself in Europe. Its principal value is in its roots. When fresh pulled, their flavor is too acid to be generally acceptable, but South American producers rectify this by placing them in woollen bags and setting in the sun for a few days, the result being to give them a sweet and floury character suggestive of fine sweet potatoes. If the drying is continued, they wrinkle and shrivel, acquiring a flavor resembling dried figs. The young leaves and shoots are also eaten as "greens" or salad.

Oka

OKRA or *Gumbo*: a West Indian plant of the Mallow family, largely cultivated in the southern states and in warm countries generally. Its mucilaginous pods are excellent in soup or stewed as a vegetable, separate or with tomatoes, etc. They were formerly dried in large quantities for consumption when fresh okra is unobtainable, by cutting into rings and hanging in the sun on long strings, but their use in that form has decreased in recent years, as the canned product is decidedly preferable. Okra seed, known as "ambrette," is much employed by perfumers and is occasionally roasted for use as a coffee substitute.

Okra

OLEO OIL: is the oil obtained from animal fat, especially beef fat, by the removal of the tissues and solid fatty acids (see STEARIN). It is largely used in the manufacture of oleomargarine.

The word *Oleo* is also employed as an abbreviated form of Oleomargarine and as an adjective signifying "oily."

OLEOMARGARINE, also called *Margarine* and *Butterine*: was invented by the French chemist, Mege Mouriez in 1871.

As manufactured to-day it is generally composed of 40% to 45% beef or Oleo oil; 20% to 25% Neutral lard (from the first rendering of the leaf fat of the hog) and 10% to 30% butter, milk or cream. Vegetable oils, such as cotton-seed oil, are sometimes added. The mixture is churned at a temperature above the melting point, and then chilled and salted, worked, etc., in about the same way as butter.

At the solicitation of those interested in the production and sale of butter, Congress passed a law, effective July 1, 1902, placing a tax of one-quarter of a cent a pound on uncolored Oleomargarine, and a tax of ten cents a pound on the colored product. In a great many states, manufacturers are, under severe penalties, entirely forbidden the use of coloring matter.

The law also requires that all Oleomargarine shall be plainly so labeled, that it shall not be sold in substitution for butter, and that when used in hotels, boarding-

houses, etc., the fact must be made known by announcements to that effect posted where they may be readily seen.

The manufacturers of Oleomargarine claim that their product is equal to the finest dairy butter in purity and nutritiveness and that in flavor it is far superior to the cheaper grades of butter. These claims are supported by many chemists and scientists.

OLIVES. Asia Minor is generally credited with being the original home of the olive, which is one of the oldest of known fruits and is often mentioned in ancient writings.

The tree is an evergreen with abundant foliage of very small greenish-gray leaves. It often reaches a great height and attains a remarkable age—there are trees in the districts near Nice, France, and Genoa, Italy, believed to be more than 2,000 years old.

Fruit is borne every other year. The flowering begins in the spring and the olive is formed by the end of July. It is green in color until it attains its full size, but it then gradually becomes yellowish and, later, a dark purplish brown as it ripens. The picking commences in November and frequently lasts until the beginning of April. The oil obtained from the January and February crops is generally considered the best.

The olive is cultivated in many countries—in the Eastern Hemisphere in all countries bordering on the Mediterranean; in the United States, chiefly in California. There are many varieties, differing considerably both in the size of the fruit and its oil content, the latter averaging from 20% to 30%. For the production of Olive Oil, the feature next in importance to a sufficient crop is a large percentage of oil. For pickling, the chief desiderata are large size and firm flesh. France, Italy and California produce the bulk of the fruit used in the making of oil. The finest pickled Green Olives come from the South of Spain, some of the fruit reaching the size of a plum. California and Arizona lead in the marketing of the pickled ripe or "Black" olive—on the Pacific coast, the green olive is passing into oblivion.

California Olives

Among the best known varieties of pickling olives are the Queen, Manzanillo and Mission.

The fruit for pickled green olives are gathered when they have attained full size, but before the final ripening commences. They are assorted according to size and quality, then washed and placed in a solution of lime and potash to remove their bitter taste. Next comes washing with sufficient water to remove the caustic flavor of the solution and finally the pickling, the process varying with the customs of various localities. Some use brine only, or salt and vinegar mixed—others add fennel and thyme or coriander, laurel leaves, etc. The fruit is generally pickled whole, but when it is desired to give it a stronger pickle savor, it is marked with incisions to the stone.

A perfect pickled green olive is yellowish-green, very firm, with pinkish pit and agreeable flavor. It must have all of these points, for each is essential to a fine product. Fruit of lesser quality is generally dark in color, with meat soft and mushy or woody and tasteless, these defects being caused either by age or imperfect curing.

Pickled or salted ripe or "Black" olives are purplish-black in exterior appearance and dark and rather soft in pulp, with a bland flavor due to the oil developed in ripening. They are processed in much the same manner as the green fruit, as prior to pickling they still retain the characteristic bitter flavor.

Green olives are essentially a relish. Ripe olives constitute a wholesome and very nutritious food. Dry bread, unsweetened biscuits, boiled or baked potatoes or similar articles should be eaten with ripe olives, as they are too rich for consumption alone.

Olives are not at first taste generally enjoyed by the average person in this country, but appreciation of them is, in most cases, readily acquired and there is a steadily increasing consumption of both imported and domestic brands, many varieties of green olives being very popular stuffed or filled with peppers, celery, etc., especially the first-named.

A saucer of olives placed on the counter convenient to the customer's reach, will sometimes start the olive habit in a family and lead to steady sales. When plain olives are not relished, the stuffed varieties may often be advantageously "demonstrated," or offered free to be sampled.

Olives should be served in a small quantity of brine and cracked ice, after being thoroughly chilled in the refrigerator. They should never be rinsed in water.

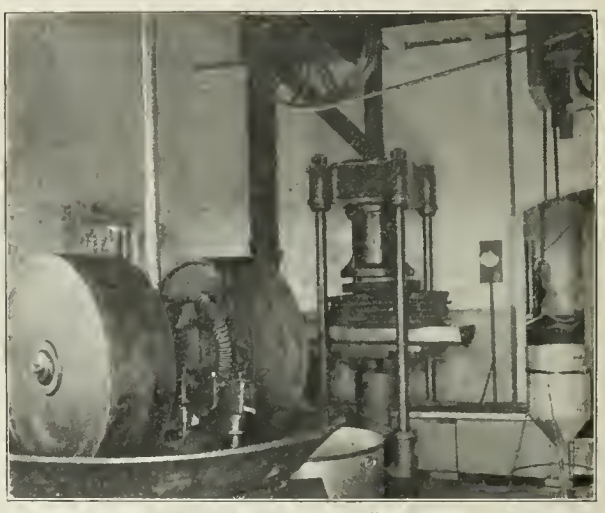
OLIVE OIL: is made from the tree-ripened fruit of the Olive and commercially holds first place among vegetable oils. The best is that from the small fruit extensively cultivated in the section of Southern France formerly known as Provence; the Lucca district, Italy, and California. The highest production is generally from trees growing on rocky hillsides. A climate of uninterrupted warmth is essential—a cold spell during the months of November and December will often render the fruit hard and the oil of inferior quality.

In regions where quality is of paramount importance, the fruit is carefully plucked by hand. As soon as possible after gathering, it is carried to the nearest mill, for the manufacture must commence within ten to twelve hours, ripe olives having a tendency to rot, to the great detriment of the oil. The result is that, as a general thing, a number of small mills are scattered throughout each district.

The olives are first spread out and slightly heated for about twenty-four hours, as this renders the extraction of the oil easier by expanding the oil vesicles. The process requires much skill and experience, as even slight over-heating will damage the product.

The fruit is then ground or crushed to a paste until the oil begins to swim on top. The paste goes into round baskets made of rush or alpha weed, called "scourtins," or into sacks of similar materials, or iron hoops covered with crash, and a certain number of the receptacles are piled together, with or without slat-grating between, and subjected to gentle pressure. This first oil is of the finest quality and is called "Virgin Oil." For the second pressing, more force is employed and is continued until nothing further can be extracted in that manner, the oil thus obtained varying in grades and value. The paste is then saturated with boiling water, and subjected to a third and fourth pressing by hydraulic power, but the resultant oil is used only for industrial purposes, for the manufacture of soaps, etc.

The oil as extracted by pressing contains a considerable percentage of water and some vegetable matter. This may be removed by repeated "settling" and "decanting." By another method, the oil is put in tanks and mixed thoroughly until it presents a milky appearance. Then fresh water is added and this, as it passes through, takes with it the greater part of the fruit-water, leaving the oil to rise to the surface. This product, skimmed off or "decanted," is known as "unrefined" or Crude Olive Oil. If made by one of the old style firms, it goes next to underground cellars or vaults, where it is allowed to settle for about a fortnight, when the cleared oil is run off and filtered several times. It is then ready for market. One hundred pounds of olives will yield an average of fifteen to twenty pounds of edible oil, i. e., oil of the first pressings.



Olive crusher, press and "settler"

The accompanying illustration shows on the left, a modern olive crusher—the upright, wide, circular wheels crushing the fruit in a stone or metal basin. Immediately to the right, in the rear, is the press for extracting the oil from the baskets or bags of crushed pulp. From the press, the oil goes to a small round separator tank, kept nearly full of water, being ejected into it, near the bottom, through the outlet of a pipe running down the side and making a short turn up into the center of the bottom of the tank. Just below the oil-jet, is a water-jet which keeps the oil-flow and the main body of water gently but constantly agitated, with the result that the heavy impurities fall to the bottom and the oil drops rise to the top, where they are drawn off through a faucet.

The oil thus obtained is "settled" in the funnel-shaped apparatus shown on the right of the illustration and is then passed through cotton-wool into the settling tanks, where it is allowed to rest for about a month. It is next "racked off" into other tanks, the process being repeated two or three times in lieu of additional filtering processes.

As olive oil is very sensitive to foreign odors and flavors, manufacturers are obliged to use the greatest care in handling and storing it. The leading manufacturers stock their finished marketable oils in vaults, with walls of glass tiles to facilitate the most scrupulous cleanliness. The merit of the finished product depends upon many different

Fruit bearing Branch of the Olive Tree

points—the quality of the fruit, its condition when picked—for neither unripe nor over-ripe fruit will give the finer grades—and the methods of refining, etc.

The best test is its color—that of a golden or straw yellow tint is best. If it is of greenish hue, it is either an inferior grade or it has not been well refined. When fresh and of good quality, it is of sweetish, nutty flavor.

Italian olive oil is more fruity in flavor than the French, and has a more decided olive taste. Some people enjoy this, but the majority prefer the French, as it is more neutral, softer and more delicate. There is an increasing demand among the best class of customers for the finer grades of California olive oil, which in flavor and purity alike have attained front rank.

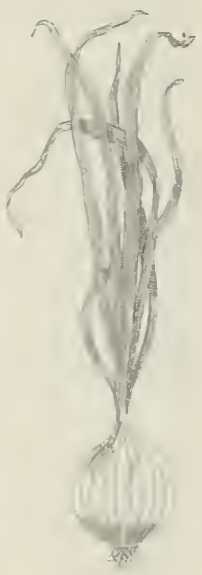
Olive oil should not be exposed to extremes of light or temperature. Light will fade its color, heat will make it rancid and cold will cause it to congeal and separate. Cold does not however injure the quality.

Housewives would find it profitable to employ olive oil more generally for cooking, etc. In the average American household it is used only for salads and salad dressing, but it is also excellent for frying—it can be heated to higher temperature than either lard or butter and it has no disagreeable odor or flavor. Nor is it expensive, in spite of the general impression to that effect, for one gallon of oil is equivalent to seven and a half pounds of butter for cooking.

After all deep frying, such as fritters, doughnuts or French fried potatoes, the oil should be carefully strained and placed in a clean, tight bottle for further use.

OLLA PODRIDA: one of the national dishes of Spain—a rich soup stew of meat, sausages, chick peas, etc. Because of the varied character of the mixture, its name is often used to describe any jumble of words or ideas.

ONION: a common garden vegetable, of the lily family, cultivated in great variety and supplied to the markets nearly all the year round. It is a native of Turkey in Asia, but it has been an article of diet in various countries for a great many centuries, and is now grown in nearly every part of the world—in particularly large quantities in Germany, Spain, parts of Africa and parts of the United States. In quantity, it stands third among the "truck" crops of the United States, the most important states being Texas, Ohio, Western New York and Connecticut.



Onion

Among the principal varieties are the White or Silver-skinned, Yellow and Red—all with various names according to their size, shape, season and flavor. The different colors are, alone, no gauge of quality—there are all grades in each color and the choice is almost entirely one of individual preference. The demand varies in different localities and changes from time to time—one section will for a long time give the preference to Yellow, then popularity will veer to White, etc. Local taste is the only correct guide for the merchant on this point.

The strong smell and flavor of the onion is due to a pungent volatile oil, rich in sulphur. When grown in warm places, it is generally milder and sweeter than the more northern product. Those of moderate size contain about 91% of water.

The earliest shipments to this country are from Bermuda—which was at one time almost equally famous for Easter lilies and onions—but which is in the latter respect

diminishing in importance as the result of the development of the industry in the South —particularly in Texas. The importations of the famous Spanish onions are, on the other hand, increasing yearly in volume, and Spain is now the largest individual exporter to this country—the United Kingdom, Bermuda and Egypt occupying the next most important positions.

The domestic crop is always shipped in gunny sacks, holding about two bushels, or in wooden boxes—never in bulk.

Many people make a mistake in storing onions. They need to be kept dry instead of damp, and consequently an airy place is the best for them—though, for the same reason, on foggy days all windows should be kept closed. Open crates of lath, such as are used to ship potatoes, make good receptacles, as they afford ventilation and keep the onions from lying in a deep mass. When many are piled together, they are liable to sweat, grow and induce rot. A temperature of 34° to 40° Fahr. is best. Curing in the sun for several days should precede placing in the cellar.

Care should be taken to avoid bruising, and damaged specimens should be promptly removed. When possible, it is a good idea to turn the stock over occasionally. If one has bought largely to take advantage of market rises, it is well to leave the tops on until it is time to make ready for market, as they tend to protect against bruising and the consequent liability to rot. When removing the tops, it is also advisable to avoid cutting too close to the bulbs.

The uses of onions are many and varied. In this country, the fresh vegetable is cooked in every imaginable way, and there is a large sale of small onions pickled in numerous styles. Increasing in popularity also is *Onion Essence* or *Sauce*, in bottles, for flavoring soups, etc. In Europe, the laboring classes eat onions raw as we eat apples.

A good idea for the housewife, is to keep a knife with a different-colored handle for peeling and cutting onions. Then there is no danger of its being used for, and carrying the flavor into, other articles. The color signal proves an effective deterrent!

OPOSSUM: a small animal of the marsupial family found in the Southern States, the Common or Virginia type being about the size of a cat, with greyish fur and black ears and feet. It has recently been popularized as a "new" dish among the white race in the North, generally roasted or baked and served with sweet potatoes (roasted around it) and corn bread. It tastes somewhat like young pig.

Opossum

ORACHE: a pot-herb which makes good "greens."

ORANGES—Flowers and Fruit

ORANGES. The ordinary Sweet Orange appears to have been first cultivated in the fifteenth century, but it has since spread to every part of the world where the climate is of sub-tropical warmth. The tree is an evergreen of moderate height with white flowers of heavy, sweet fragrance and considerable beauty (see *Color Page* opposite page 426). It bears foliage, flowers and fruit simultaneously, for the fruit requires about twelve months to become fully ripe. Mature cultivated California trees of good growth will generally give from two hundred and fifty to four hundred fruit annually. Those in more tropical latitudes average considerably higher and often produce several times that number.

The first oranges in the market are the early Floridas and, next, the Arizona Navels, commencing November 1 or even earlier. Then comes the bulk of the California and Florida products—Navels and others. The finest summer orange is the Late Valencia of California, in season from the middle of June to November.

There is an increasing demand for fancy varieties of the Tangerine type—strongly aromatic fruits, generally small in size and flattened at the ends, with loose dark-colored skins and mild, sweet, rather dry pulp. They have been nicknamed "kid-glove" oranges, because one can eat them without the aid of plate or spoon, as conveniently as candy. The most popular of the numerous varieties are the Tangerine proper, the Mandarin, larger and lighter in color, the Satsuma, and the King of Siam, or "King"—the last named generally of fair to large size and of very rough skin (see *Color Page* of orange types opposite page 430).

The ordinary sweet orange imported from Europe is the variety known as the Lisbon or Portugal and its near relatives. The most noteworthy special types include the St. Michael; the "China," with very smooth, thin rind and abundant juice; the Maltese or "Blood Orange" with mottled pulp, and the Tangerine. The European Tangerine is grown in two sizes—one about half the size of an ordinary orange, and the other very small and sweet, scarcely an inch in diameter. The latter is seldom seen in this country. Still others are the Majorca, a seedless type, and the Egg Orange, so named from its oval shape.

By far the greater part of the oranges eaten in the United States are now grown in Florida and California, supplemented by a considerable supply from Porto Rico. The importations from the other West Indian Islands and Europe, formerly very large, have been greatly reduced and are still falling. A noteworthy percentage of the present supply of imported oranges comes from Mexico, and there is also a small regular influx from Japan (chiefly of a type a little larger than the Mandarin), parts of Central America, etc.

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Orange Groves in midwinter, California

The fame of the California product has been much enhanced by the fine "Navel" or seedless oranges marketed in increasing quantities each year. Contrary to general belief, these oranges are *not* the result of scientific development by horticulturists. They are a natural fruit of special variety.

The story of the rise of the Navel to its present commercial importance, reads like a fairy

tale. In 1872, an United States Consul at Bahia, Brazil, sent a few young seedless orange trees from the swamps of the Amazon to Washington. The following year, a Mrs. Eliza Tibbets, of Maine, took three of the shrubs to Riverside, California, and planted them on land which her husband had purchased there. Two died, but the third survived, throve and bore fruit. California growers were quick to appreciate the merits of the Navel and competition in its cultivation was very keen. As the oranges were seedless, propagation had to be accomplished by budding, and for a time Mrs. Tibbets secured a dollar a bud for all she sold.

Orange Trees protected from freezing by the use of extensible coverings, Florida

In 1880, the navel orange crop was one whole box!—but since, from that one tree has grown an industry whose yearly value averages from fifteen to twenty million dollars. The original tree planted by Mrs. Tibbets still lives and bears fruit. It is now in the court of the Glenwood Hotel, Riverside, California, where it was transplanted with much ceremony in 1903.

The Washington Navel, the original type, so called because the first trees were secured from the agricultural department in Washington, D. C., is accredited with better and longer keeping qualities than any varieties of later introduction or development, but that known as the Valencia is considered the choicest in flavor.

The Florida orange is too well known to need much description. In its best types, it may be conservatively described as one of the finest fruits the world has ever produced. The skin is generally thin, and the pulp and juice are rich in flavor and very generous in weight and amount. Among the best types of the mid-season Floridas are the Indian River and Pineapple—of the later, the Tardif.

The best Porto Rico oranges are of delicious flavor and sweetness, but they do not appeal to the public as strongly as the Florida and California, the product being small and less "fancy" in style, because West Indian shippers have not yet learned to exercise the same care in selection, sorting and "polishing" the fruit.

In California, oranges receive much "grooming" after leaving the parent tree—and they are gathered only on sunny days, as the damp fruit would attract dust, to the detriment of their appearance.

Sulphuring orange trees to kill parasite life

(1) Florida
(3) Tangerine

ORANGES

(2) Navel
(4) King

The first step after plucking, is to give them a bath to remove any dust that may have settled on them. For this, they are placed in a long, narrow tank of water, at one end of which is a large wheel with a tire of soft bristles, revolving in connection with another set of brushes in a smaller tank below, the oranges passing in between the wet brushes and coming out bright and clean. This device has almost entirely done away with the method of hand scrubbing, but at some of the smaller packing houses may still be seen groups of women, each busily scouring the golden balls.

After their bath, the oranges are spread out in the sun to dry, on long slanting racks. At the lower end, they roll off into boxes, to be carried away to the warehouses for their "rest," for various changes take place in the fruit so recently cut off from the sap supply, the skin drawing closer to the pulp and "sweating" or giving off moisture that would result in damage if the fruit were packed at once.

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Picking oranges, California

After the days of curing, the oranges are fed into a hopper, which drops them on a belt running between revolving cylindrical brushes, which produce the smooth, shiny appearance of the fine market fruit, and then they go to the "sorting tables," where they are rapidly graded according to color and general appearance, as "Fancy," "choice," "standard," "culls," etc., and, mechanically, by size. The "Fancy" fruit are perfect in form and style and with unmarred skins of the typical orange color. The lesser grades are principally those in which the skin is more or less stained or "russet"-brown in color. Other trade terms of division are "Brights," divided into "Fancies" and "Seconds"; "Golden Russets," "Dark Russets," etc. The sorting tables are built at a slight incline and the divided streams of oranges run in files on tracks of moving ropes. The smallest fruit falls through first, and so on to the largest, the oranges graduating themselves into their proper bins. There are twelve principal sizes, from those which run three hundred and sixty to a box, to the big specimens which take only forty-eight.

Sharp corners are avoided or carefully padded in all these processes, for the fruit is so susceptible that even a small scratch might fester and destroy its merit between shipping point and destination. For the same reason, handlers and packers are obliged to keep their finger nails short and filed smooth.

Finally comes the wrapping of the finer fruit in paper—there are machines which can each handle forty thousand to fifty thousand a day—and the packing in boxes, the barrel method of shipping having been almost entirely superseded.

Though only fruit of fair size and appearance are, as a rule, offered for sale to the public, there is use for all undersized specimens. Very small oranges, generally unripe,

are preserved whole in sugar as a sweetmeat, or used to make some varieties of "curaçoa" and other liqueurs, for juices and jams or marmalades, extracts, essential oils, etc.

The orange peel most in demand for confectionery, preserves, candying, etc., is, however, that of the sour or Seville orange, described in the next article.

Ripe oranges should be stored in a cool, dry place with a temperature never much above 40° Fahr. and never falling to the freezing point. If subjected to careful sorting beforehand and properly crated, they will at that temperature generally remain sound for from eight to twelve weeks. For a moderate length of time, they will stand warmth up to 80° or 85° Fahr., but anything beyond that will dry and shrivel them. In warm weather, a plentiful supply of fresh air is essential to their proper keeping, whether in transportation or in store or home. Wrapping in soft paper and packing in sawdust is recommended. The thin-skinned varieties are especially liable to absorb odors, so proximity to strong smelling articles should be avoided.

Oranges received in a green state may be ripened in a temperature of 70° to 75° Fahr. While ripening, it is well to cover the boxes with burlap soaked in water.

Oranges are probably the most wholesome and useful of all the sub-acid fruits. Their juice differs from that of the lemon chiefly in containing less citric acid and more sugar. Their free and regular consumption is beneficial to nearly everyone and with many persons they are a real specific for ill health based on digestive disorders.

A point to be remembered by the consumer is that many a choice fruit is concealed in a mottled-looking skin! Weight for size, ripeness and soundness, are the principal points for consideration. All of these may be found equally in those of "fancy" and those of less pleasing appearance. Both "Brights" and "Russets" may be plucked from the same tree and under the skin will average exactly the same in quality. The russet color is caused by the puncturing of the rind by a tiny insect known as the Rust Mite, which permits the oil of the rind to exude—but the mite does not touch nor affect the fruit pulp. "Golden Russets" are those attacked later or in less degree. For ordinary family purposes it is not necessary to confine oneself to the more expensive fruits, classed as "fancy" because of their handsome exteriors.

Seville Orange, Bigarade Orange, Sour Orange. The foregoing article dealt with the ordinary Sweet Orange, the one with which the general public is almost exclusively familiar. The first orange known to civilization was, however, the Seville or Sour Orange, the French *Bigarade*, which was brought into Spain by the Moors early in the eighth century, nearly seven hundred years before the Sweet Orange made its appearance in Europe.

The Seville Orange tree is smaller than that bearing the Sweet Orange, more inclined to be spiney and with leaves more nearly elliptical in shape. The oil cells of the fruit are concave and both the pulp and rind are heavier and coarser.

Unless very ripe and considerably sweetened, the Seville orange is not to the average palate a pleasing fruit to be eaten raw, but it is grown very largely throughout Southern Europe, and to some extent here, for use preserved and in liqueurs, perfumery, etc.

In the preserved form it is best known as *Marmalade* (which see), but great quantities of the green fruit are also preserved and candied whole. The peels, by distillation, furnish the characteristic principle of *Curaçoa* and are similarly utilized for many other liqueurs, flavoring syrups, etc., and medicinally as a stomachic. *Neroli*,

Sorting and packing oranges, California

or *Orange Flower Oil*, and *Orange Flower Water*, produced in France in enormous quantities for perfumery, soap manufacture, syrups, liqueurs, etc., are made from the blossoms and, lesser grades, from the leaves and small twigs.

The greater part of the commercial supply of orange flowers is obtained from the especially developed variety known in France as *Le Bouquetier*, or *"Nosegay Plant,"* which furnishes also the "orange blossoms" of the European florists. The flowers are similar to those of the Sweet Orange, but in Le Bouquetier they grow in thick clusters at the end of the branches. There are some varieties with double blossoms and others with myrtle and purplish-white flowers.

The practice of wearing orange blossoms by brides is derived from the Saracens, among whom it was regarded as emblematic of happiness and prosperity.

South America is also important as a source of orange-flower and leaf essence—in Paraguay, for example, the wild groves are dotted with numerous small establishments devoted to the industry. In addition to its commercial uses, the extract is employed locally as a healing ointment and the dried flowers are made into a gently stimulating beverage. In some places, a "Tea" brewed from the leaves is considered efficacious in fever cases.

The Spaniards brought the Seville Orange to Florida and there it found a soil and climate so well suited to its requirements that wild groves were soon to be found all over the State—to such an extent, indeed, that many authorities held for a long time that the tree must be native to the country. The wild groves have, however, almost entirely disappeared—many of them were killed by the severe freezing spells of a few decades ago, and a majority of the remainder have been budded to the Sweet variety.

The Sour-Sweet orange is merely a local variety or adaptation of the Seville.

ORANGE AMANITA. See sub-head in article on MUSHROOMS.

ORANGE BLOSSOMS: are employed in the preparation of many Southern puddings, ices, etc., being crushed to bring out the flavor as strongly as possible, and they are also candied whole in the same way as violets, but their chief use is in the manufacture of Neroli and Orange Flower Water.

ORANGE EXTRACT: is made in the same ways as *Lemon Extract* (which see), and the orange oil used is extracted in the same manner as *Lemon Oil*, nearly all the trade supply coming from Sicily.

ORANGE FLOWER OIL. See matter following trade title of NEROLI.

ORANGE FLOWER WATER: the fragrant liquid resulting from the distillation of orange blossoms after the essential oil, Neroli, has been removed. It is used in the making of syrups, perfumery, soaps, etc., and in the household in the preparation of various desserts.

ORANGE MARMALADE. See general article on MARMALADE.

ORANGEADE: an orange beverage similar to lemonade in preparation.

ORANGEAT: a term applied both to candied orange peel and to orangeade.

ORCHANET. See matter following heading of ALKANET.

ORGEAT: a form of ALMOND SYRUP (which see).

OYSTERS (and method of oyster-dredging)

ORMERS: a shellfish found on the coast of Florida. The flavor may be described as between that of oysters and very delicate veal.

ORTOLAN: a European bird about the size of a lark, distinguished by its black wings and greenish-grey head. When fat, it is considered a great delicacy. The "Ortolans" sold here are generally various kinds of small "reed" birds.

OTAHEITE APPLE: a fruit of the cashew family, about the size of an apple and generally resembling an orange in color. Its rind has an odor suggestive of turpentine but the pulp resembles the pineapple in aroma and flavor.

OUTING SUPPLIES. When the summer approaches it is well for the retailer to bear in mind that "outing supplies" afford liberal profits. If a dealer proves himself expert in furnishing needed outfits, packing in a superior manner, etc., the information spreads rapidly among customers, for a judiciously selected and arranged supply of good things to eat is equally important whether the buyers merely intend to spend the day in a city park or are going further afield.

Among the many articles that may be appropriately suggested for any occasion are: crackers and sweet biscuits; cheese, of the types easily handled; pickles, olives, candy, etc., and canned goods such as salmon, sardines, tongue, devilled meats, boned game and poultry, condensed milk, fruits, etc.

Camping parties offer a still wider range of possibilities, for the supplies should also include sugar, tea, coffee, salt and pepper; butter of the very best quality, in screw-top glass jars; pilot bread for chowder or to use with the early cup of coffee; toilet soap and a bar of laundry soap, matches, etc. These are only sample suggestions, for there are scores of other articles in a grocer's stock that may be included.

Worthy of consideration also are the numerous "camp kits" composed of collapsible articles that occupy little space and enhance the comfort of a camping party. Included are usually found various cooking utensils and a stove, the whole fitting closely together and capable of being packed in a big boiling pot or fitted into a box that may be slung over the shoulder. A wisely selected kit will include a stove, kettle, frying pan, gridiron, coffee pot, a few canisters and pepper and salt boxes.

As individual items, are collapsible chafing dishes and picnic baskets of various kinds and sizes.

In many places it pays to advertise in local papers a readiness to meet all demands for outing supplies; to send special circulars to customers, and to scatter advertising matter throughout the district.

OYSTERS. One of the most democratic of food luxuries is the oyster—you find it in high favor in the most expensive establishments, yet it is equally abundant in "popular price" restaurants, in lunch rooms and in the cheapest of eating stalls. In stores, it is sold both in and out of the shell, fresh and canned, and it is eaten in every conceivable way!

Among the best known varieties are: Blue Points, Rockaways, Lynnhavens, Saddle Rocks, Cotuits, Cape Cods, Buzzard Bays, etc.

These titles have in many sections lost much of their first significance by trade misuse. "Blue Point," for example, is often, though incorrectly, applied to all small oysters, irrespective of their geographical source; and "Rockaway" and "Saddle Rock,"

particularly the former, are similarly employed for large sizes. As a matter of fact, there are both small and large oysters of all varieties, the difference in size being chiefly that of age.

A small quantity of European oysters is imported every year—particularly of the French Marennes, which has a greenish color from feeding on a green seaweed, but it is intended only for limited consumption in a few cosmopolitan establishments. The general trend is the other way 'round, for every year sees large exports of American oysters, which are almost universally conceded to be the finest in the world.

Oysters have been enjoyed as food as far back as history takes us and have been an object of special culture for a couple of thousand years. Every country has its own particular method of cultivation, for within the last century even those sections where the natural crop is largest have been compelled to resort to special growing to keep pace with the enormous annual consumption.

In England, the most popular method consists in spreading the brood-oysters over smooth, hard, clean areas. In Holland and France, they are bred on tiles ranged sideways in rows along the shores and thence later removed to the deeper waters from which they are dredged for the market. In this country, the seed-oysters are generally spread on a carefully laid bed of old shells—oyster shells, mussel shells, etc.

The growing period intervening between the first setting and the final shifting, is ordinarily three years, but is subject to variations in accordance with the size of the seed when planted, its rate of growth, the size desired, etc. On some grounds the rate of growth is much more rapid than on others.

Between March 1 and July 1, the planter shifts the oysters he intends to market in the fall, from beds of soft bottom to those of hard bottom. This change has been found beneficial to the oyster, as it clears it of mud and other extraneous substances and improves its color and flavor, and it also gives an opportunity for separating the clusters, when necessary, into single oysters. The bed thus cleared by shifting is replanted with seed-oysters, obtained generally from natural beds.

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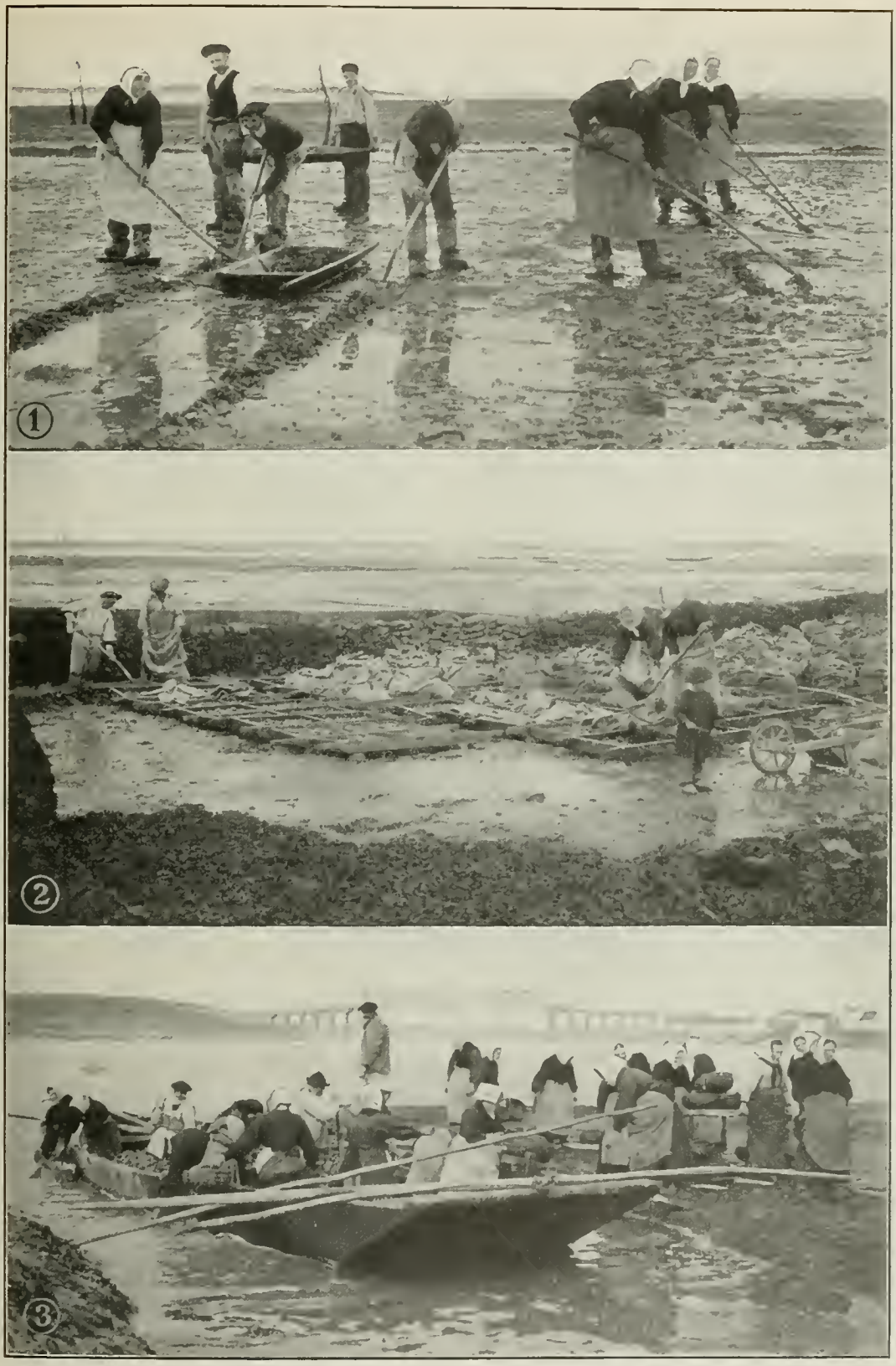
A mountain of "Seed" Oysters ready for planting, Hampton, Va.

The season for marketing opens with September. The oysters are taken by means of dredges and tongs and are prepared for the market by "culling" or sorting by sizes, the dirt and attached shells being removed during the process. In some cases the cleaning is assisted by dumping them on the sand at low tide, removing them at the next low tide.

The three sizes chiefly recognized in the trade are "half-shells," the smallest, usually preferred for eating raw; "culls," medium size, for consumption raw, stewing, etc.; and "box," the largest, generally for frying—although true oyster lovers take delight in large Lynnhavens or other deep sea oysters "on the half-shell."

The eating of oysters raw is as correct from a hygienic standpoint as from that of the epicure. Raw, the component parts of the oyster practically digest themselves in the human stomach. Cooked, the human stomach must do the work as for other food.



(1) Raking the "oyster parks" and placing the oysters in the trays or "carriers." (2) Filling sacks from the "carriers." (3) Loading a *Chaland*, a large flat-bottomed boat used for transporting the filled sacks or baskets

THE OYSTER INDUSTRY AT LOCMARIAQUER AND LA TRINITÉ-SUR-MER, FRANCE

(1) Gathering oysters at low tide. (2) Unloading the *Chalands*

THE OYSTER INDUSTRY AT LOCMARIAQUER AND LA TRINITE-SUR-MER, FRANCE

California oysters are very much like those of the Mediterranean and other parts of Europe—small and of the same coppery taste. Those found further north, on the coasts of Oregon and Washington, are similar to the Atlantic varieties.

Large quantities are grown also in Japan and China, and in the latter country there is a heavy trade in dried oysters, the bivalves being cooked and then sun-dried.

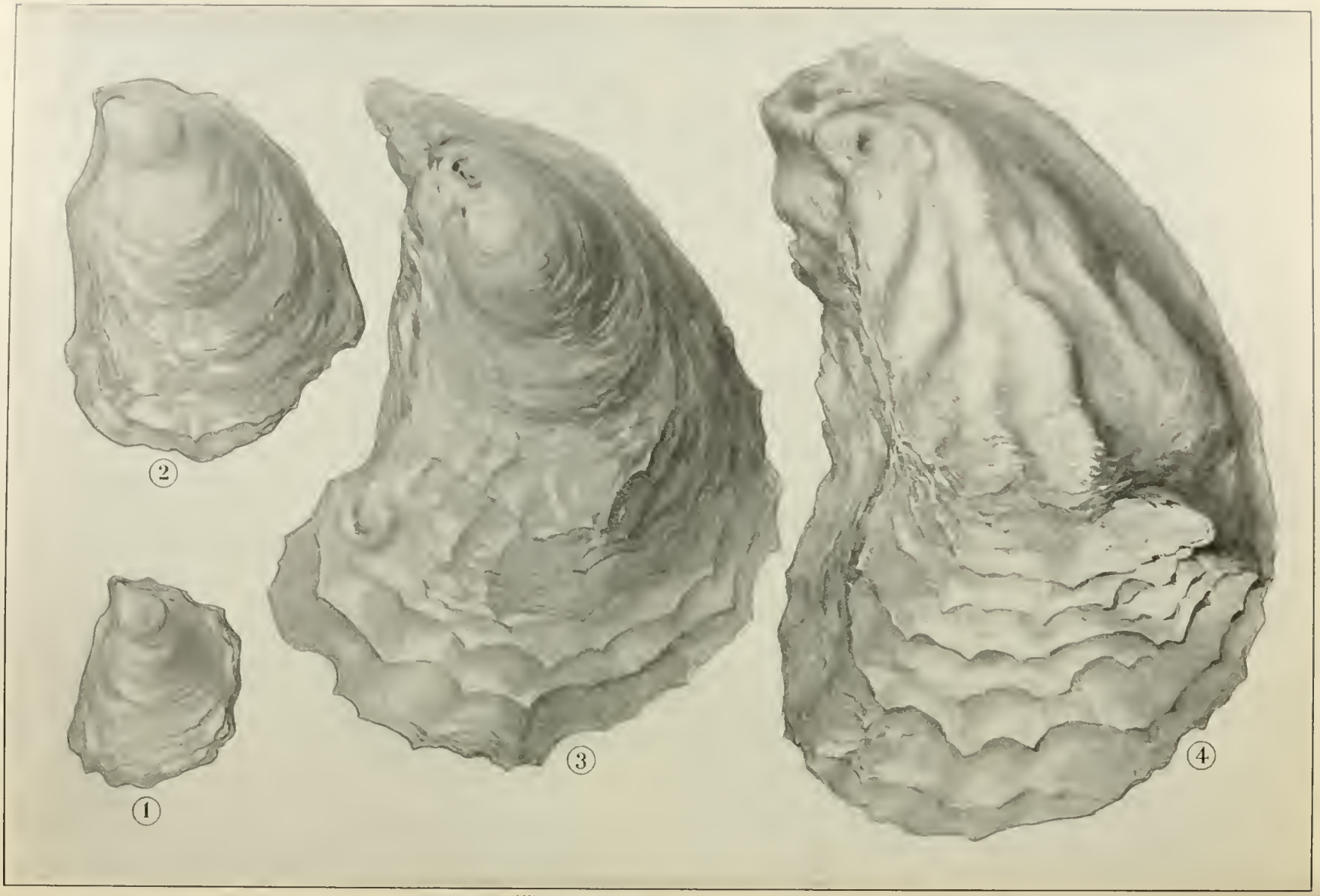
The oyster is peculiar in the fact that age makes no difference in its tenderness. Custom and trade demands result in its being consumed while still young and comparatively small, but if left to live until old and very much larger, the flesh is just as tender and fresh. The illustration on page 444 shows the average size of an oyster at the ages of one, two, six and eight years.

By almost universal custom, oysters are tabooed during the months of May, June, July and August, but there is really no good reason for thus banishing them from the bill of fare. The oyster is not a desirable article of diet when spawning, which period covers from three to four weeks, but as the time of spawning differs in various localities, no elimination of certain fixed invariable months can ensure protection against

A typical Tong Boat, and men "tonging" oysters

their use in that condition, and the same care that is now exercised during eight months in the year could certainly be extended to cover the remaining four.

The rule is, however, a tradition of great and venerable age! It was first, we believe, put on record in 1599, by a certain Dr. Butler, the vicar of an English country parish—but he can hardly be considered an authority sufficiently weighty to bind the human race for all time to come! The custom has been sustained with some reservations by recent European investigations, because of a disease apparently peculiar to that hemisphere to which oysters cultivated there are subject during the summer months, but the symptoms noted have not been found in this country to any appreciable extent and to little, if any, greater degree in summer than at other

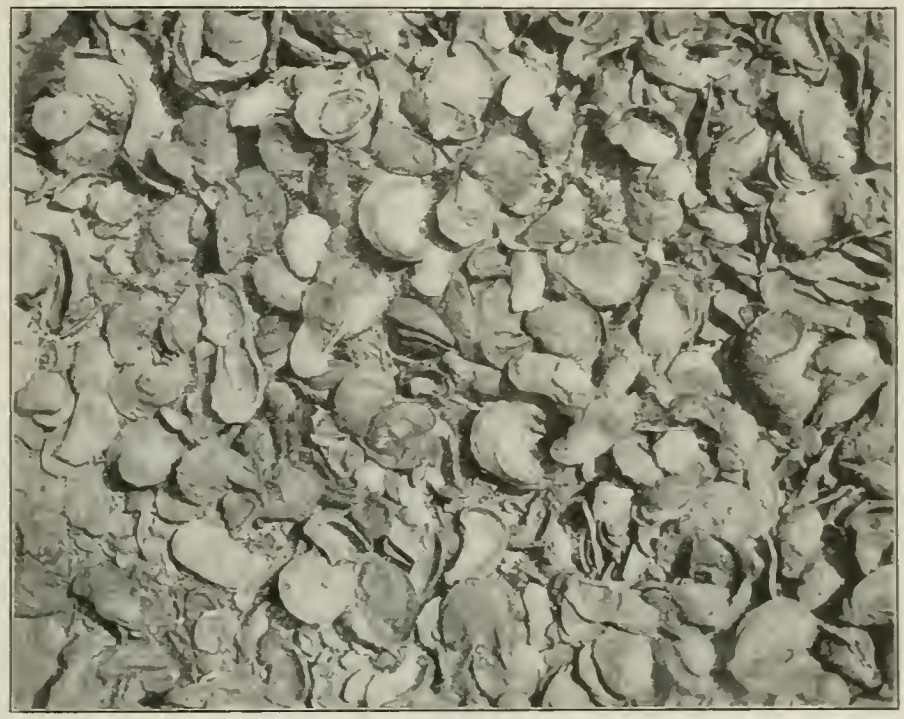


AVERAGE GROWTH OF NATIVE OYSTERS

(1) One year (2) Two years (3) Six years (4) Eight years

seasons. In some sections of the United States, oysters have indeed always been eaten as freely in summer as in winter without any bad effects being noted.

A valuable peculiarity of oysters is the ease with which their lives can be sustained for a long time after being removed from their native element. Placed in a cool damp place, with the deep shell down and occasionally sprinkled with brackish



Turtle Rock, Newport River, showing a section of tonging area
(From a photograph taken at very low tide)

water, they may be kept alive and in good condition for weeks. This tenacity is attributed to the liquor in the shells, which serves to sustain the respiratory currents.

When removed from the shell or "shucked," the oyster may still be kept in edible condition for several days, but it is then necessary to remove its liquor, for, although this is the medium by which existence is sustained while in the shell, it has been found to have the opposite effect after shucking. Shucked oysters which are to be transported any considerable distance, are carefully washed, frequently in five or six waters, until no particle of any substance but the bivalve itself remains. Thus prepared, packed in air-tight receptacles and kept cold, they may be held eight to ten days without injuring their flavor or otherwise affecting them as an article of food.

Oysters should always be kept in a cool place, but never where there is any danger of freezing. The *Color Page* of OYSTERS faces page 436.

OYSTER CRABS. See reference in article on CRABS.

OYSTER PLANT or *Salsify*: a vegetable, native to Europe and now generally grown in this country, chiefly for its long and tapering root, which is white and fleshy in texture and contains a large proportion of milky-white juice. It owes its name to

its resemblance in flavor, when cooked, to that of the oyster. There are two main varieties, the "White" and the "Black," distinguished by the color of the outside skin, the meat of both types being white. The Black Salsify is also known as *Scorzonera*. The best market season is during July and August, the home supply being supplemented by imports from Europe, principally from Belgium and Germany.

Oyster Plant is prepared in various ways—half-boiled and grated fine, made into small flat balls, dipped in a batter and fried like oysters—or stewed like carrots, etc.

The young flower stalks, if cut in the spring of the second year, may be dressed and served like asparagus, which they resemble in flavor. The white part of the stalk and the young top leaves, if well bleached, make an excellent salad.

PADDY: a name applied to rice before the hull has been removed (see RICE).

PALM OIL: is made from the oily, generally red, pulp surrounding the nuts of several varieties of the low thick-trunked Oil Palm, found in Africa and South America. When fresh, it is generally orange-yellow and of pleasing odor. The color changes with age to red or dirty white, and old stock and inferior grades obtained by local methods of fermentation, are rank in flavor and disagreeable in smell prior to refining.

Palm Kernel, or *Palm Nut,* **Oil:** is obtained by expression or chemical extraction from the kernels of the same fruit. It is generally white or pink and of agreeable odor and taste, resembling cocoanut oil and being frequently substituted for it.

PALM TREES: endogenous plants, native to tropical regions, often growing to great height and generally with straight bare stems and tops of constantly growing, long green leaves. Mark Twain likened them to "huge feather-dusters." No other genus of plants has been so generous a provider for the needs of mankind. The two types most important to civilization are the *Date* and the *Cocoanut*.

PALMETTO, or *Cabbage Palm*: a palm growing freely in the Southern States. The young leaf buds are eaten like cabbage and are very delicate in flavor. The mature leaves are used in hat manufacture.

PANCAKES. The pancake is probably the oldest form of bread. Ancient ceremonies connected with it are still practiced in some places, although, generally speaking, their first significance long ago passed into oblivion. The most widely observed is the popular custom in many communities of eating them on Shrove Tuesday, which, especially in France, often develops into a veritable pancake feast.

English, American and French pancakes all have distinctively national characteristics. The old-fashioned English type is the lightest of all, as the batter is mixed with ale and allowed to rise. This method also makes the English pancake thicker than the American. It is properly served flat, as also is the American, instead of folded like the French, piping hot, dusted with pulverized sugar and sprinkled with lemon juice.

The American "batter cake" is usually raised by means of baking powder or yeast, but not with ale nor to the same extent as the English.

French pancakes contain no leavening material other than the eggs which are included in the best receipts—it is only their thinness that prevents them from being tough. They are generally spread with jam or jelly, rolled up omelet fashion, covered with sugar and glazed by melting the sugar in an oven or branding with a red-hot iron.

Cultivated OYSTER PLANT (Salsify) Wild

PANCREAS. See remarks in article on SWEETBREAD.

PAPAW, Paw-Paw, Papaya. As the result of an erroneous impression that they are related, there are two entirely different fruits known under the name of "Papaw." One is a wild fruit of the middle United States; the other is a tropical product.

The North American Papaw is shaped somewhat like a short banana, but thicker. When ripe, it contains a yellowish pulp which resembles an overripe muskmelon in taste. It is excellent cooked, but opinions are divided as to its desirability for eating raw—some people pronounce it delicious, but its peculiar flavor is not generally appreciated.

The tropical Papaw, supplied to American markets chiefly from Florida and the West Indies, is about the size of a cantaloupe, elongated in shape and with a thick, greenish or dull-orange roughly corrugated skin. It is eaten raw with salt, being agreeable in flavor when at its best, and also cooked and pickled, particularly the last-named. It is especially noteworthy for the character of its juice, which includes a principle known as "Papain," which has much the same digestive effect as pepsin, and also "fibrine," a principle rarely found outside the animal kingdom which has been described as "blood without color."

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Papaw Tree, Honolulu

Water containing a few drops of papaw juice is said to possess the property of imparting tenderness to tough meat immersed in it for a few minutes.

PAPER: was first made at Nuremberg in the year 1390; in England, in 1450, and in America, near Philadelphia, in 1690. It was probably known in China 2,000 years ago.

Modern paper is manufactured from a great variety of articles—wood, rags, rope, etc.—reduced to a pulp. *Bag-paper* is made principally from wood pulp, the wood being converted by either mechanical or chemical means.

Mechanically-made pulp consists of the wood ground up, generally by water pressure, and then pressed into thick sheets or "blankets."

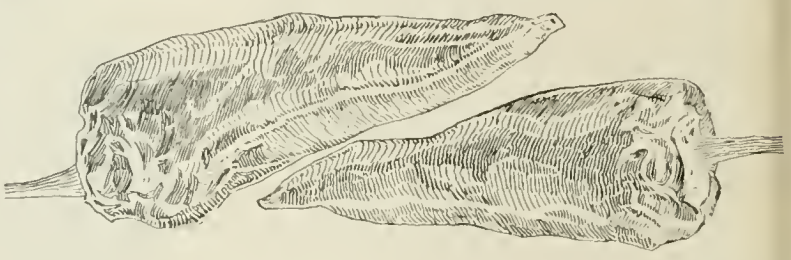
When chemically treated, the wood is cut into chips and treated with sulphurous or other acid. The pulp finally appears in "blankets" as from the mechanical process.

The next step is the mixing of different kinds of pulp to produce the desired grades of paper, followed by "beating," in which the fibres are drawn out and the pulp again thoroughly mixed, various chemicals being added for "size" and color, etc. The "stock" is then ready for the paper machine, where the fibres are shaken on moving wire cloth, the greater part of the water being thus removed and the fibres so

interlocked as to obtain the desired strength. Next comes the drying, a very important process—thorough dryness is essential, yet paper that is overdried is brittle and entirely unsuitable for bag purposes, etc.

Paper is put up in reams, containing when full count twenty quires of twenty-four sheets each. It is sold by count, but is usually short of the standard number of sheets called for by the ream, quire, etc. Its quality for bags, etc., is easily tested by its strength in comparison with its weight. See also BAGS and WAXED PAPER.

PAPRIKA, called also **Hungarian Pepper** and **Sweet Cayenne Pepper:** is the powdered flesh of a long large-fruited variety of capsicum, grown principally in Hungary and Spain but also to an increasing extent here. It is red and mildly pungent.



Paprika Peppers. Whole dried fruits as they appear when ready for market

The several grades are determined by the selection of the peppers and their treatment both before and after grinding. Pods of especially reddish color and mild flavor are considered the choicest. Sharpness of taste denotes inferiority.

Paprika is a very valuable spice for flavoring dishes and is almost universally liked even on the first use. It should always be kept dry.

Paradise Nuts and the "Monkey Pot" in which they develop (one-fifth average size)

PARADISE NUT (see *Color Page* opposite 410) : a sweet oily nut resembling the Brazil Nut, but with a thinner, smoother shell, the fruit of a large forest tree growing in the Amazon valley. The nuts are formed inside a large urn-shaped shell, commonly known as a "Monkey Pot," similar in construction to that enclosing Brazil Nuts but generally much larger.

The high cost and comparative scarcity of Paradise Nuts are attributable to the fact that when the mature pod falls to the ground, the natural gas formed inside blows out the neatly fitting lid which nature has fashioned for the top of the urn or "pot," scattering many of

the nuts among the dense tropical undergrowth and at the same time emitting a characteristic report which brings all the monkeys in the neighborhood rushing to the feast!

PARAFFIN, *Paraffin Wax*: a whitish waxy substance, tasteless and almost odorless, obtained as a by-product in the refining of petroleum. It is employed in a great many trades and professions, its uses being almost innumerable. It is best known to the average person as an easy and efficient sealer of preserve jars, as a substitute for wax in ironing and for other purposes in the family laundry, for waxing floors, etc. It is employed in creameries to coat the inside of wooden butter packages; by pickle makers for similar treatment of barrels, kegs, etc.; by packers for coating hams, etc., and in the manufacture of candles, etc.

For the sealing of preserve glasses and bottles, paraffin is simply melted and poured on top of the preserve—it forms a cake which makes an air-tight seal with no further labor to the housewife. This use has become very popular.

Paraffin must not be kept near steam pipes or radiators, or in the sun. See also Waxed Paper,

PARCHMENT PAPER. See under Waxed Paper.

PARMESAN: the most popular grated cheese. See Cheese.

PARR: a young salmon. Up to the age of two years the salmon has dark markings and is without the silvery lustre which characterizes it when mature. See also special article on Salmon.

PARSLEY: a favorite kitchen herb, popular for garnishing and flavoring, for the latter purpose being sold both fresh and dried. Common Parsley is said to be native to Egypt but it is now thoroughly naturalized both here and in several European countries. The variety chiefly grown is the curly leafed type. The finest received in the Eastern markets comes from Bermuda.

In addition to its flavoring qualities, parsley contains an essential oil which is mildly stimulating.

Common Parsley

Hamburg Parsley, or **Turnip-Rooted Parsley,** is a special variety grown in Europe for its large, white root, which is cooked in the same way as the parsnip and tastes somewhat like celeriac.

PARSNIP: a vegetable of the parsley family, which grows wild in many parts of Europe and Asia. The Romans are credited with having been the first to cultivate it. It is one of the most nutritious roots, popular for table purposes and surpassed only by the beet as a food for cattle.

In parts of England and Ireland a "wine" is made from the fermented roots.

Parsnips make their best growth very late in the fall and it is customary to leave part of the crop in the ground over the winter, the frost action improving the flavor. Dug roots should be kept in a cool cellar or similar place, protected both from light and air currents.

PARTNERSHIP. A partnership exists wherever two or more persons combine their labor or capital, or both, to secure the profits to be produced thereby. The terms upon which this is to be effected are regulated by agreement between the parties and are generally, although not necessarily, expressed in a written instrument called "Articles of Partnership."

Partners are agents for each other, and any one may bind the firm in transactions within the scope of the firm's business, and each one, whether he be known to the world or not, as in the case of a "dormant" partner, is individually liable for the firm's debts. That one who shares in the profits of a business must share in its losses, is a general principle. No arrangements among the partners themselves can alter these facts to the prejudice of third parties, hence no one should enter a partnership without reflecting that he commits the whole of his fortune to the integrity and intelligence of his associates. On the other hand, any person dealing with a partner in any matter within the scope of the firm's business, knows that he has the security not only of the firm's property, but also of the property of the individual partners.

Although it is a general rule that only those who share in the firm's profits can be held liable as partners, one without share may be made liable by allowing his name to be used or himself to be held out to the world as a partner, so it is essential that one retiring from a firm should not only advertise the dissolution in the newspapers, but should also send special notice of his retirement, by circular, to all persons who have been in the habit of dealing with the firm.

There are statutes in a majority of states which enable persons to contribute money loans or personal property as "special" partners, and limit their liability to their actual contribution. This is often called a "limited partnership" and the firm name announces it as "Brown & Smith, Limited." Legal advice is most important in entering into any such relation.

PARTRIDGE. In different parts of the United States, the title "partridge" is given to various American birds, but in strict parlance it is applicable only to the European bird of that name. Recent attempts to propagate the true partridge have encouraged the expectation that it will in time be added to the list of American game birds. There are two principal varieties—the Grey and the Red-legged or "French Partridge." A large number of killed birds are imported every year for local consumption. Young birds may be distinguished by their tender unworn beaks and sharp toes and by the fine skin over their legs.

Good general usage now applies the name "American Partridge" to the native "Ruffed Grouse" (see GROUSE).

PASTES. The term "Paste" is popularly employed in a great diversity of ways. Among the articles so styled are (1) for culinary purposes—glutenous dough mixtures similar to macaroni made in fancy forms, such as letters, animals, stars, etc., generally used in soups; (2) in candy-making—stiff forms, such as Jujube Paste, Fig Paste, etc.; (3) Fish Pastes and Meat Pastes (see POTTED MEATS); (4) Furniture Paste, or Cream, composed of beeswax and turpentine, etc., for cleansing and polishing furniture, and (5) an adhesive mixture generally, or chiefly, of flour and water.

PASTILLES: a class title for lozenges, gum drops and similar confections. In medical practice, the word has other specific meanings.

PASTRY: a class name for a variety of articles made of light, puffy dough, as pies, tarts, etc. The finest and richest kind is usually termed *Puff Paste,* which requires considerable skill, as its success largely depends on lightness of hand in kneading.

PÂTÉS: meat preparations, both domestic and imported from France, Germany and elsewhere, put up in earthenware jars, tins and boxes. They are so called because they were originally sold in pastry or "pâté" form. The most famous of all is the "Pâté de Foie Gras" or goose liver pâté, described under FOIE GRAS. Other noted examples are the chicken and ham pâtés from Rouen, France; those of truffled game and poultry from Périgueux, Angoulème and Nérac; woodcock, from Montreuil; duck from Amiens; game from Pithiviers, Chartres and Nogent-le-Rotrou, and fish from Abbeville. Pâtés should always be thoroughly chilled before serving.

PAW-PAW. See matter under title of PAPAW.

PEA. The Pea is one of our most valuable and most nutritious vegetables. Those cultivated for table use are grouped in two main classes—"edible-podded," and "tough-podded" or shelling. Tough-podded peas may be divided into two chief types, those with smooth seeds and those with wrinkled, the former being the more attractive to the eye but the latter generally the sweeter and therefore more desirable. Edible-podded peas are little cultivated here, but in Europe large quantities are grown for use in the same way as string beans.

The Cowpea, or "field pea" of the South, belongs to the bean family (see BEANS).

Peas should always be kept in a dry, cool place.

Tough-podded or Shelling Peas

Canned Green Peas. Green peas are extensively canned both in this country and Europe. The market offerings vary very much in quality, many of the cheaper packings described as "green peas" being merely dried peas soaked in water and canned—a practice often resorted to by unscrupulous parties when prices are high.

Careful sorting and separating precede the putting up of the better grades. The general formula calls for equal quantities of brine and green peas in each can, with sometimes the addition of sugar, the sealed cans being cooked and sterilized in similar manner to other canned vegetables. The domestic output is graded as "Fancy," "Standard," "Seconds," etc.

The most expensive grades are those imported from France. Peas preserved by the French process retain their natural flavor but are artificially colored, as in preparation their original green hue becomes slightly yellow. The coloring process consists in placing them before canning in a solution containing sulphate of copper in the proportion generally of one gram to a liter of water. "Extra fine" peas are allowed to remain in the liquid for eight to ten minutes; "fine" peas, seven to eight minutes;

"medium" peas, six minutes, and "coarse" peas, five minutes. The peas so treated resume and retain a fine green color, hence their name of *Petits Pois reverdis.*

French peas are also prepared in a number of special forms—the most important of which is *Petits Pois au Beurre,* "small, or new, peas in butter." Ordinary canned peas require seasoning before service, but in this style the seasoning is added before canning and they require nothing but heating. A well-trained palate is needed to distinguish them from the fresh vegetable.

"Evaporated" Green and "Split" Ripe Peas. During the last few years the market has taken an increasing quantity of evaporated green peas, both whole and "split," domestic and imported. They are sold at much lower prices than the canned goods and they make a very pleasing dish. The peas after hulling are steamed, then slowly dried in the evaporator by a current of warm air not above 162° Fahr., and finally screened and graded by size. The smallest, being the most savory, bring the highest prices.

There is also a fair consumption of the ripe pea, hulled and "split," but it merits much wider appreciation. Its food value is very high (see article on Food Values). In Europe, it is as largely consumed as the dried bean.

When preparing dried or evaporated peas for the table, they should be soaked in cold water for eight or ten hours, during which they will resume their normal size and moisture. The subsequent boiling should be long and slow to make them easily digestible, but they are well worth the trouble.

Pea, or Pease, Soup is especially agreeable to the palate if a little meat—fresh-beef, ham or salt pork, etc.—is boiled in it.

PEA FLOUR: offers the nutritive value of the dried ripe pea in convenient form for easy preparation. As however it is easily adulterated, caution is advisable when purchasing. It is used in the preparation of pea soup, as a thickener of other soups or added to them in the form of small cakes or balls rendered cohesive by mixing with a little fat—and in many other ways. "Erbswurst," one of the staples of the German army and famous as a condensed food of high merit, is a mixture of pea flour, fat and condiments.

PEACH: a fruit belonging to the almond family, native to Persia but now cultivated in all temperate climates. There are a great many varieties, capable of general classification under "White" and "Yellow," both types being again divisible into "Freestones," with flesh pulling free from the stone, and "Clingstones," with the flesh adhering to it.

The "Peen-to," in shape somewhat like a tomato, is a Chinese variety now largely grown in some semi-tropical sections of North America.

In addition to their consumption as a fresh fruit, vast quantities of peaches are canned, dried and evaporated, principally the first-named. Lemon and Orange "clings" and Crawford "freestones" are among the most popular types for canning. Dried peaches come from California, the annual product amounting to from twenty to thirty thousand tons. The most widely sold of evaporated peaches are those from Delaware. Peeled dried or evaporated peaches retailed in cartons bring double the price of the bulk product.

Fresh peaches are imported from Bermuda toward the end of April and realize fancy prices at that time. They come from the South during June, and from New

PEACHES

Jersey about the middle of July. The season is at its height in July and August and ends in October.

They should be turned over as speedily as possible, as they quickly deteriorate. They keep best and longest—if properly selected and crated, for two to four weeks—in a temperature of 34° to 36° Fahr. Above that, the process of ripening continues and soon spoils them.

They should not be eaten raw unless thoroughly ripe, but in that condition they are accounted among the most wholesome and "safest" of all fruits for sick and well alike.

Among other commercial products of importance obtained from the peach are *Almond Oil,* from the seeds or kernels, *Peach brandy, Peach water* and *Persicot* (see LIQUEURS).

PEACH BRANDY: is obtained by distilling the fermented juice of the fruit. Its consumption was once large, but it has greatly diminished within recent years.

PEACH "PALM": a South American tree bearing a fruit that suggests the apricot in appearance though it is somewhat triangular in form. It is generally eaten roasted and otherwise cooked. The dried and ground meal is also made into a cake of pleasing flavor.

PEACH WATER: is produced by bruising fresh peach leaves into a pulp with water, and then distilling. It has the smell and taste of bitter almonds and is used for flavoring.

PEACOCK. During the Middle Ages, the peacock frequently graced the banquet table, cooked whole and served with its own gorgeous plumage as garnishing, but modern taste has condemned the flesh of the mature bird as unpleasant and in every way undesirable. There exists, however, a limited demand for young peafowl, with preference for the young peahen. The flesh is abundant in proportion to the bone, but its quality is a matter of individual opinion—some declare it to be very pleasing and delicate, others decry it as tasteless and dry.

PEAFOWL. See matter under preceding caption of PEACOCK.

PEANUTS. The plant which produces the fruit generally known as the Peanut in this country, and as the Groundnut in Europe, is one of a class which bury their pods in the earth to ripen, instead of raising them into the air (see *Color Page* opposite 458). In order to effect this, the flower-stalk, holding the very young pod, gradually curves downward after the flower has passed away and finally forces its point perpendicularly into the soil. When it has penetrated to a sufficient depth, the pod begins to swell, and when ripe becomes the oblong, rugged, pale brown fruit, usually containing two seeds, so well known to consumers.

The peanut is native to Brazil, but is to-day cultivated in all sub-tropical and tropical countries. About 300 million pounds are annually raised in the United States, and a total of nearly 600 million pounds in Africa, Spain, China, Japan, Java, etc.

The American crop is consumed principally in the form of the whole nut, peanut butter and peanut candy. There is also a growing market for peanut oil, peanut

meal, etc. A few million pounds of the American product are annually exported, but to offset this is a small but steady importation, principally of the small but especially delicate Spanish type, both whole and shelled.

The 400 or 500 million pounds sent to Europe every year from Africa and Asia are chiefly converted into oils and flour in factories at Marseilles, France—and in lesser quantities at other points on the Continent and in England.

Retailers find it profitable to cater to the increasing demand for the nuts themselves, fresh roasted and salted, and products such as peanut butter, both for regular home consumption and for party and picnic purposes.

The commercial history of the peanut in this country commences with the Civil War. Before that time, only a few garden peanuts were grown in Virginia and the Carolinas for family use—almost as curiosities. During the war, soldiers discovered that they made excellent food, and the result was that in the years succeeding the end of hostilities the acreage assigned to them steadily increased, until to-day when the crop employs nearly 200,000 persons and covers between 300,000 and 400,000 acres. In parts of Virginia and North Carolina, it is of more importance that corn or wheat.

Virginia and North Carolina produce more than half of the present total crop, but every year sees greater attention devoted to it in other States, especially Georgia, Alabama, Florida, Tennessee, Texas, Arkansas and Mississippi.

The best known types of American Peanuts are the Flat or Running, or "Virginia" Flat and Running, the Bunch, "Spanish" and North Carolina or "African." The most widely planted is the Flat or Running type, a large nut excellent for general commercial purposes. The Bunch is similar in nut characteristics, its name referring to its more upright method of growth.

The "Spanish" nut is similar to the imported Spanish variety—small in size but very mild and savory, and the choicest for eating raw or cooked, candy making, etc.

The North Carolina, or "African," is similar to the Flat or Running variety, but the kernels contain a larger percentage of oil.

Tennessee has two varieties, known as the White and the Red. Both somewhat resemble the Flat or Running variety, except that the Red gives kernels covered with dark red skin. The Georgia Red is similar to the Tennessee Red.

As American trade demands a bright-colored shell and the pod assumes the color of the ground in which it grows, the soil most desirable is a light, sandy loam. Lime is an essential ingredient and is added when lacking, and the soil must be kept light and friable or the ovary cannot bury itself and develop into a pod. Planting begins in May or June. The nuts form the seed, and about two bushels are required for an acre. The plants get above the earth and begin to leaf out within a few weeks. The pods mature during September or October, the harvesting season in some localities continuing until November.

White peanuts are harvested by running a furrow on each side of the row with a bull-tongue plow or a pea digger, so as to dislocate the roots. The vines are then gently lifted by hand, the dirt shaken off, and laid on the ground to wilt. Later, they are brought together and stacked. The Red nuts are more easily harvested than the White as they have but few roots and the nuts adhere closely about the stem. In loose land, they may be pulled up without running furrows.

The stacks are usually allowed to stand to dry for about four weeks, the nuts being then picked off, either by hand or machinery, the former generally obtaining higher prices.

PEANUT

The peanuts reach the factory in sacks containing from 90 to 100 pounds each. They are first dumped in hoppers and taken through cleaning machinery, which removes all the vines, sticks and sand, and are then graded in sizes by screens and powerful fans. The cleaning and scouring processes are especially important in preparing the product intended for bag trade, as those with clean glistening pods command from 15% to 20% more than others equally good in kernels but of less attractive appearance.

The screen-grading is followed by hand-sorting, and those which pass the final inspection are carried by a chain apparatus into bags of about 100 pounds each.

The nuts intended for manufacture into peanut butter or for confectionery, etc., are next roasted, generally in the shell, and are then shelled and blanched and again passed through fans which drive out or draw up the hulls, skins, etc., going finally to moving tables where all faulty kernels are picked out by hand. The good sound kernels thus obtained are distributed, by machinery, to the various departments.

Supplementing the principal market forms of the peanut, is an extensive trade in the by-products. The little germs or hearts sifted out of the ground nuts in the manufacture of peanut butter, etc., make excellent poultry food. The roasted hulls ground into meal are an excellent food for stock—analyzing about 11% protein and from 8% to 9% fat. The red skins removed from the shelled nuts are also well up in protein and fats. Even the wilted plants left in the fields form valuable fertilizer when left to rot before plowing under, being prolific in nodules of bacteria.

PEANUT BUTTER: is made by grinding roasted peanuts to a paste, the germs being removed in the process. It is very nutritious, containing the full food value of the peanut in an easily edible form. An average of analyses shows approximately 29.3 protein matter, 46.5 fat and 17.1 carbohydrates (see article on FOODS). It is consumed both as an agreeable "nut food" and as a "spread" for bread, or bread and butter.

PEANUT MEAL and Flour: consist of ground peanuts from which the greater part of the oil has been extracted. The finer grades are sold in large quantities to the bakery and candy trades for use in the manufacture of various kinds of cakes, breads and confections. Economists urge its more extended use as a general food article, as it is very rich in protein and carbohydrates, especially the former. In Europe, the flour is baked into a bread which has a large sale in Germany and France. The lower grades are used for stock feed, etc.

PEANUT OIL: properly refined, is an excellent table, cooking and preserving oil, and is recommended for use medicinally when pure vegetable fat is required. In France, it is extensively used in the packing of the cheaper qualities of sardines and numerous other food products. It is also employed in many other industries, in the making of fine silks because it does not readily turn rancid, and as a lubricant for fine machinery because it does not "gum," etc.

A bushel of selected, shelled African peanuts will yield about a gallon of good quality oil suitable for such purposes. Subsequent pressings give in addition an inferior quality known in some trade circles as "butterine oil," employed chiefly in soap manufacture and as a basis for liniments.

The American Peanut, though superior for edible purposes, does not yield as large a quantity of oil as the true African Peanut. Present experiments are toward a combination of the flavor of the American nut with the oil content of the African.

PEANUT ROASTERS: are seen in increasing numbers in groceries. They are now made so handsomely that they are really ornamental as well as profitable. They take up little room and require little attention.

PEARS. The pear is of all temperate fruits one of the most susceptible to improvement by cultivation. There are to-day more than one thousand varieties, ranging from the tiny Seckel to the marvelous fruit grown in the Island of Jersey, one of the Channel Islands between England and France. These Jersey pears frequently bring a price of $72.00 or more a dozen in the London market. Only a few of the monsters can though be grown on each tree.

The pear grows wild in some parts of southern and eastern Europe and in many places throughout Asia. It is not an easy tree to start in an orchard, but when once well established, it is usually very vigorous and frequently lives to a great age. There are a number in existence known to be more than four hundred years old.

The states of Washington and California produce the largest pears found in the American market, but connoisseurs are inclined to favor those of the Middle West and Eastern states as having usually a finer flavor.

Among the best varieties for general consumption are the Anjou, Bartlett, Bell Flower, Bergamot, Beurre Rose, Black Grant, Grimes Golden, La Comice, Nelis, Red Astrakhan, Roman Beauty, Seckel, Talman and Willow Twig.

The fruit are generally gathered about two weeks before they are ripe, as most varieties are too delicate for transportation when thoroughly mature. The ripening can be delayed for months, if desired, by cold storage. If, on the other hand, the stock needed for immediate retail purposes is received hard and green, the fruit should be placed in shallow trays and carefully ripened at a temperature of 60° to 70° Fahr. Excessive heat must be guarded against, or the fruit may rot inside even though the exterior give no warning of the change. Crowding also should be avoided as much as possible.

PEARL MOSS: one of the many names for Irish Moss or CARRAGHEEN (which see).

PEARLASH: a somewhat purified form of crude carbonate of potash (see POTASH).

PEARLED BARLEY: the polished decorticated whole grain. See BARLEY.

PECAN NUT: a species of hickory nut, extensively grown in the West and South of the United States. It is agreeable in flavor, with a very sweet and oily meat, and, in the best "paper-shell" varieties, a shell that is easily cracked. It is generally olive-shaped, though some types are sharp-pointed and others blunt and somewhat four-angled. It ripens about December and is seasonable until April. See *Color Page* opposite 414 and also NUTS (*Food Values*).

PECTIN: a sweet "jelly" which is formed in fruit pulps during the ripening process and the principle which causes cooked fruit to thicken and jellify. It is developed from pectose, which gives the characteristic hardness to many unripe fruits.

PEMMICAN: an invention of the American Indian, is lean beef, or venison, dried hard, pounded to a powder and pressed into cakes. Sugar, melted fat, etc., are sometimes

BARTLETT PEARS

added in manufacture. It is now a commercial article, manufactured on a considerable scale both here and in Australia. It is especially suitable for Arctic exploration, etc.

PENANG SPICES: a term occasionally applied to a mixture of various spices, employed in cooking, preserving, etc.

PENGUIN EGGS: the eggs of the penguin, a bird found in all high southern latitudes, but in especially large numbers along the coasts of Cape Colony, S. A., and the adjacent islands. They resemble large plovers' eggs in texture and flavor and are very rich—so much so that if kept for any length of time it is necessary to turn them over every few days to prevent the yolk from settling. They are eaten by all classes in South Africa, but the expense and risk of transportation makes them a luxury when exported to other countries. They are eaten boiled—twenty minutes being the best boiling time—baked, fried, in salads, etc.

PENNYROYAL. See general article on MINT.

PEPINO, or **Melon pear:** a fruit native to South America. It is generally of about the shape and size of a goose egg, of lemon color streaked with violet. The interior is a solid pulp of light yellow, resembling a muskmelon in flavor.

Pepino

PEPPER. The Black or White powdered pepper used as a condiment is the ground fruit of the *Piper nigrum L.*, a perennial climbing shrub, native to the forests of western and southern India but for centuries cultivated also on the Malay Peninsula and in Sumatra, Java, Ceylon and Siam, and to a limited extent in Borneo and various other tropical countries. The fruit is a small, round berry, the "peppercorn," growing in loosely packed clusters of from twenty to thirty, closely attached to a common fruit stalk (see *Color Page* opposite 468), a good vine producing an annual average of from one to two pounds. Pieces of the stalk may often be found in whole black pepper and examination will show the depressions formed where the berries were attached. The shrub or vine grows to a height of eight to twelve feet and is supported either by poles or trees. The peppercorns are exported in bags of 64 or 128 lbs.

Black Pepper: consists of the dried immature berries of the shrub, gathered as soon as one or two on the clusters commence to turn red. After removal from the stem, they are dried in the sun or near a mild fire, the outer fleshy portion of the berry shriveling in the process, turning brown or black and becoming hard, brittle and adherent to the stony, inner portion, thus forming a hardened wrinkled cortex.

Among the principal commercial varieties listed in a recent government report are Malabar (Mangalore, Tellichery, Alleppey, etc.), Singapore, Penang and Trang, Acheen (or Sumatra or West Coast) and Lampong (or East Coast), named either from the place of cultivation or that of shipment.

Malabar Peppers are those from the Malabar Coast of India. "Mangalore" peppercorns are very large, twice the size of ordinary pepper, of a deep black, very clean and uniform, giving when ground a powder of greenish-black appearance. "Tellicherry" and "Alleppey" are sun-dried and light-brown.

Sinapore Pepper is that grown on the Malay Peninsula, principally in the southern extremity known as the State of Johore. It constitutes a considerable portion of all the pepper raised and, because of its dark color and fairly uniform quality, is a product of good appearance. It is not, however, so highly regarded for grinding purposes because of its smoky odor. The pepper and gambier plantations of Johore are usually under one management, and the pepper is dried by placing it on mats suspended over the kettles in which the gambier is boiled down to make the vegetable extract. The smoke from the furnace underneath dries the pepper but at the same time imparts to it a distinctly smoky smell, which is retained to a considerable degree even after the pepper is ground. It is, indeed, one of the tests by which the pepper merchant determines whether a given sample is Singapore or not.

Trang and *Penang Pepper,* shipped from Penang, is grown in either Java or Sumatra. It is of especially rich color.

Acheen, Sumatra or *West Coast,* are names applied to the pepper obtained from Acheen, the western extremity of the Island of Sumatra.

Lampong Pepper or *East Coast,* is grown on the east end of the Island of Sumatra, near the Straits of Sunda.

As a general rule, the heavier the peppercorns for size, the better the grade. They should be firm and round, clean and uniform in appearance and not too much furrowed.

Acheen Pepper has been standardized by general agreement and the four chief grades are now determined by their specific gravity.

"A" grade weighs at least 4 lbs. 13 oz. to the imperial gallon or 481 grams per liter.
"B" grade weighs at least 4 lbs. 5 oz. to the imperial gallon or 431 grams per liter.
"C" grade weighs at least 3 lbs. 13 oz. to the imperial gallon or 381 grams per liter.
"D" grade weighs at least 3 lbs. 5 oz. to the imperial gallon or 356 grams per liter.
(Dust not to exceed 3% in any class.)

The many advantages of this method will probably result in its extension to all Black Peppers in the near future. The other varieties described in this article are generally superior to Acheen and give much higher results on the weight test. Alleppey, for example, sometimes goes as high as 6 lbs. 12 oz. to the Imperial gallon and contains practically no dust; Tellicherry ranges from 6 lbs. to 6 lbs. 12 oz. and is equally clean; Lampong averages about 6 lbs., with a dust percentage of 1½% to 3%, and Singapore from 5 lbs. to 5 oz. to 5 lbs. 8 oz., the dust though ranging up to 4%.

U. S. Standard Black Pepper is black pepper free from added pepper shells, pepper dust and other pepper by-products, and containing not less than 6% of non-volatile ether extract; not less than 25% of starch by the diastase method; not less than 28% of starch by direct inversion; not more than 7% of total ash; not more than 2% of ash insoluble in hydrochloric acid, and not more than 15% of crude fibre. One hundred parts of the non-volatile ether extract contain not less than 3.25 parts of nitrogen.

White Pepper: is practically the same product as Black Pepper except that the outer shell or pericarp of the berry is removed to a greater or less extent by friction, following soaking in water. It is sometimes made at the plantations, but just as frequently by manufacturers who buy the peppercorns in open market. Some manufacturers prefer, for White Pepper, berries that have been allowed to ripen before picking as they are more easily decorticated, but this is not an universal rule.

Decorticated White Pepper is the term applied to the product which, in addition to losing the outer dark shell, has also had the seed-coats partly or entirely removed.

There are numerous qualities according to the length to which the process has been carried. The most expensive is that from which all three seed-coats have been removed, producing smooth, hard, pearly kernels. Other grades retain one or two seed-coats.

There are several varieties of White Pepper on the market, corresponding in a general way with Black Pepper, such as Singapore, Penang, Tellicherry, Siam, etc.

Coriander White Pepper is a product of especially attractive appearance—screened to uniform size and then bleached.

Pepper Shells is the by-product of external shell or cuticle obtained in the manufacture of White Pepper.

U. S. Standard White Pepper is white pepper containing not less than 6% of non-volatile ether extract; not less than 50% of starch by the diastase method; not less than 40% of starch by direct inversion; not more than 4% of total ash; not more than .5% of ash insoluble in hydrochloric acid, and not more than 5% of crude fibre. One hundred parts of the non-volatile ether extract contain not less than 4 parts of nitrogen.

Ground Pepper: whether black or white, should consist only of whole or hulled peppercorns reduced to proper fineness by grinding and sieving.

Long Pepper: is chiefly derived from wild plants of the genus *Chavica Miq.* The fruit spikes, gathered when green, are cylindrical in form and covered with closely packed, small round berries. The product is crudely prepared, the berries hardened together and adhering to the woody stem, and generally including a large quantity of dirt and other extraneous matter. It does not possess the fine flavor or strength of true pepper and its addition is rated as adulteration. Its principal use is for pickles.

Red Pepper, Cayenne Pepper, Paprika. *Red Pepper* is the powdered ripe pod, both flesh and seeds, of any variety of capsicum, the plant which gives us the edible fresh "pepper" but which bears no relation to the true pepper-plant. The most noted varieties are the *capsicum baccatum, capsicum frutescens* and *capsicum fastigiatum,* all distinguished by very small narrow pods—varying from one-half to one and one-half inch in length—cultivated in the East and West Indies, Mexico and the Southern States.

Cayenne Pepper is, by the ruling of the Board of Food and Drug Inspection, 1906, distinguished from Red Pepper in general as being obtained *only* from small-fruited varieties of capsicum—the three types named above or similar varieties. It should be of dull red color. The best known commercial varieties are Zanzibar, Mombassa, Sierra Leone and Japan, the last-named being less pungent than the others.

"Nepaul Pepper," from a capsicum grown in Nepaul, India, is a choice variety of Cayenne Pepper, yellowish-red and very pungent but of especially agreeable flavor.

U. S. Standard Cayenne Pepper is cayenne pepper containing not less than 15% of non-volatile ether extract; not more than 6.5% of total ash; not more than .5% of ash insoluble in hydrochloric acid; not more than 1.5% of starch by the diastase method, and not more than 28% of crude fibre.

Cayenne is a powerful stimulant, producing a sense of heat in the stomach and a general glow throughout the body without narcotic effect. In small amounts it is an aid to digestion, particularly of vegetables, which partly accounts for its general use in warm weather.

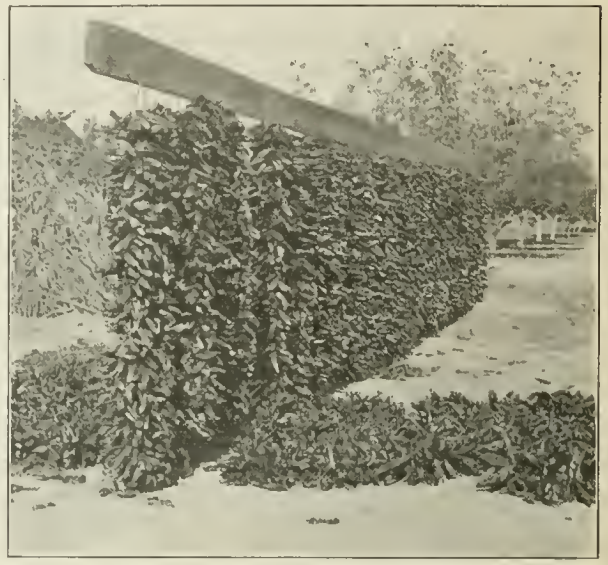
PAPRIKA (which see) is a Hungarian red pepper made from the flesh only of a variety of the Common Capsicum.

PEPPERS—Fresh. The fresh "peppers" cultivated as a vegetable are mild-flavored, large-fruited varieties of capsicums. They may be prepared for the table in many ways —"stuffed," mixed with hashed meat, in sauces and soups, etc. To many people, the especially sweet types are enjoyable eaten raw as a fruit. All kinds are extensively used in the commercial manufacture of condiments and sauces.

Fresh peppers are now in season all the year, being in the East cheapest during the summer months when the market is supplied by local growers.

The winter's supply comes in large part from Cuba and Porto Rico. Some grades are very choice, arriving in small crates as carefully packed as peaches and bringing high prices. These go principally to hotels and restaurants.

Florida also ships early peppers; Virginia, around Norfolk, comes next—and then, as the season advances, many other states—New Jersey being the main source of supply for the New York market. Immense quantities are grown in the vicinity of Vineland, N. J., by Italian farmers.



Drying "Peppers," New Jersey

The winter sale of the dried fruit for home use is an industry of steadily increasing importance.

In the tropics the capsicum is a perennial, but in the United States it is cultivated as an annual. It is easily grown in any rich soil, and in almost any part of the United States. It should be started early in a hot-bed, or in a green-house, and treated similarly to the tomato and egg-plant.

There are many varieties, differing chiefly in the shape of their fruit, which, when ripe, turns to a red, yellow or dark violet color—shiny and brilliant when fresh, but becoming duller and wrinkled in drying. The types most commonly grown are the Bell, Ruby King and Long Red Cayenne. Other popular kinds are the Sweet Mountain, Golden Dawn, Red Cluster and Spanish, the last-named being generally preferred for Oyster Cocktails.

PEPPERCORN: the whole berry of the pepper-plant. See PEPPER.

PEPPER-DULSE: a pungent seaweed used in salads in some parts of Scotland.

PEPPERGRASS, or PEPPERCRESS: one of several names for CRESS (which see).

PEPPERMINT: the most widely cultivated variety of MINT (which see).

PEPPER POT: a national soup stew of the West Indies which has found much favor in the United States, especially in Philadelphia. It is composed of various meats, vegetables, herbs and small dumplings, finished and seasoned with cassareep or chilies.

(1) PIPER NIGRUM L.
"Black" and "White" Pepper
(2) PEPPER CORNS

(3) COMMON CAPSICUMS
Fresh Peppers, Common
"Red Pepper" etc.

(4) SMALL-FRUITED CAPSICUMS
Cayenne Pepper
and Chilies

PEPPER SAUCE: consists of, or is prepared from, red capsicums, generally of the small or "chili" type, steeped in vinegar, etc. See also TABASCO.

PEPSIN: a ferment, related to the proteins, contained in the gastric juices of humans and other mammals. The commercial product is obtained from the stomach lining of the pig or calf.

PERCH: a title popularly applied to a large family of both fresh and salt-water fish found in all parts of the world. The chief American type is the fresh-water Yellow Perch, a true member of the *Perca* genus. Among other well-known varieties are the salt-water and fresh-water White Perch, the former being credited with the choicer flesh. The main season extends from September to May—"Pike Perch" from September to April. The average weight is from small to 2½ pounds each.

Yellow, or Barred, Perch

PERCENTAGE: literally "by the hundred." In commerce, the term is applied principally to interest charges (so much "per cent"), analysis (such and such percentage of butter-fat in milk, for example), custom duties (so much per cent on the value of goods), etc.

PERFUMED LYE: a superior grade of lye in finely powdered, perfumed form.

PERFUMERY. With the exception of a very limited retail sale of the absolute oils, all perfumes consist of fragrant essences in alcoholic solutions. The most expensive are generally based on essences obtained direct from the blossoms or leaves of various plants, but the bulk of those marketed owe their fragrance either wholly or in part to odors of artificial manufacture, for chemistry has devised methods of imitating nearly all natural perfumes at much lower cost than by extraction from the plants, and has also produced many new odors and combinations that are very pleasing to the sense of smell. Perfumes, or extracts, of proprietary or trade titles frequently owe their characteristic fragrance to the blending of a number of odors—drawn from any one, or all, classes—animal, vegetable and artificial. One of the best known brands contains, for example, the blended natural odors of rose, vanilla, musk and violet. Less expensive kinds are produced by similar mixing of cheaper natural or artificial essences.

A few natural essences, as musk, civet, etc., are obtained from animal sources, but the great majority are vegetable in character. All parts of the world contribute to the supply. Considerable quantities of the essential oils of Birch, Cedar, Sassafras, Wintergreen, etc., are produced in the United States. England supplies an especially fine grade of Lavender. Bulgaria is an important source of Rose Oil. Italy furnishes the bulk of the commercial supply of Orris Root extract. Mexico gives, among others, the best Vanilla and Linolea, the fragrant oil of a native myrrh tree. The East Indies, the Philippines and the Orient generally, furnish Patchouli, derived from the leaves and head of the Patchouli Plant, a member of the mint family; Ylang Ylang, from the flowers of a tree of the custard-apple family and a variety of others, including the cheap and popular oils of Lemon Grass, Palma Rosa and Citronella, and Sandalwood and many spicy types. Nine-tenths of the world's supply of natural flower

essences is, however, obtained from a stretch of hilly land, about 115,000 acres in extent, situated in Southeast France, spreading in triangular form from the city of Grasse, the center of the industry, in the direction of Nice and Cannes. The surrounding country is protected by mountains on three sides—it is open only to the South and the heat thence is tempered by the waters of the Mediterranean. Perpetual spring reigns and the entire region may be described as one large flower garden, the atmosphere ever laden with the sweet odors arising from millions of blossoms. The late winter and early spring are the principal harvest times for violets, jonquils, etc., gathered for perfumery purposes; the early summer for orange blossoms, carnations and roses; mid-summer for jasmines and tuberoses and the fall for the acacia. These are only a few of the flowers grown—a full list would include the broom, geranium, heliotrope, lavender, mignonette, mimosa, narcissus, rosemary, verbena and a great many others. The annual "crop" averages about 5,000,000 pounds of orange blossoms, 3,000,000 pounds of roses, a million pounds each of jasmines and violets, six to seven hundred thousand pounds of tuberoses, half a million pounds of carnations, etc.—in addition to the large quantities of cut flowers supplied Continental florists.

The greater part of the flower-growing territory is distributed among a large number of peasant owners, who attend personally to the cultivation and gathering. Infinite pains are exercised in the care of blossoming plants. Many kinds, as carnations, are protected at night and during rough weather with straw matting, imposed on framework dividing the beds at regular intervals.

The prices paid for the blossoms vary with the seasons—a fair figure during a good harvest is about six or seven cents a pound for rose leaves or orange blossoms,

Growing carnations on the hillsides near Nice, France. An early morning scene—the upper gardens have been exposed by rolling back the mats, but the majority of the lower beds are still covered

up to fifty cents a pound for violets—the large difference in the favor of the latter being due to the small quantity obtainable from any given space of land and the much longer time required for gathering. An experienced person can pick fifteen or sixteen pounds of roses in an hour but only about one-tenth of that quantity of violets.

A rose bush of average strength will give annually from ten to fifteen pounds of blossoms and an orange tree about twice that amount.

A great quantity of blossoms is required to produce any appreciable amount of the absolute flower oil. One pound of attar of roses represents about five million roses, and a pound of violet oil, about twelve million blossoms. It is not therefore surprising that genuine high grade attar of roses sells at wholesale for $80 to $110 a pound. The total of the flower crop in the Grasse country may be judged from the fact that Paris perfumers alone purchase annually a million pounds of natural flower oils.

All flower essences are obtained by Distillation, Extraction by Fixed Solvents or Extraction by Volatile Solvents. *Distillation* is the most widely used. A mixture of the petals and water is heated in a still and the condensation of the mixed steam and essential oil obtained, shows a layer of oil on the surface of the water. This first separation is followed by refining and cleansing processes. The "water" residue of the distillation is the Orange Water, Rose Water, etc., of commerce. In some sections, portable stills are carried from place to place in the mountains for the treatment of those flowers which will not stand transportation.

Violets, jasmines, tuberoses and a number of other flowers will not, however, readily yield their odors in their native delicacy by the distillation process and they are therefore treated by the "fixed" or "volatile" solvent methods.

A closer view of one of the gardens shown in the photograph on the opposite page

Extraction by fixed solvents is performed in two ways, (a) by Hot Maceration and (b) by Inflowering (*Enfleurage*). In the first named, the blossoms are added to high grade, thoroughly refined melted fat or heated vegetable oil (generally olive oil) and the mixture is allowed to digest, with frequent stirrings, for several hours, the oil being kept fluid and at a uniform temperature. When the flowers have exhausted their aroma, the oil is strained into another pot and fresh blossoms are added, the process being repeated from ten to fifteen times until the fat or oil is thoroughly saturated with the odor. If fats are used, the product is known as "Pomade"; if oils, as "Perfumed Oil." By *Inflowering*, or the cold process, Pomades are secured by spreading cold fat on both sides of framed sheets of glass known as "chassis." The flowers are placed on top of the fat and the chassis on top of each other, the blossoms being thus pressed between two layers of fat. Fresh flowers are substituted from time to time until the fat is heavily charged with the perfume. Cold Process Perfumed Oils are obtained by substituting thick cloths saturated with oil for the glass sheets.

The essences are later extracted from the pomades or perfumed oils by treating them with alcohol, which absorbs the greater part of the perfume but very little of the fat. Subsequent distillation and washing processes produce the pure essence.

Extraction by volatile solvents consists in bringing petroleum spirit in contact with the blossoms. When thoroughly charged with their odor, the spirit is dissolved, leaving a residue which consists chiefly of the odorous principle. This process presents many difficulties in the attainment of the best results, but, successfully performed, gives absolute flower oils of high quality.

Artificial and Imitation Flower Essences are variously obtained. Some of them—as Carnation, Clover, Heliotrope, Lilac, Rose, Sassafras, Vanillin, Verbena, Violet—are successfully produced, in whole or in part, from other vegetable essential oils. Carnation and Vanillin are both made from eugenol, derived from oil of cloves. Safrol, extracted from essential oil of camphor, gives Heliotropine, the basis of Artificial Heliotrope, and is also sold as Artificial Sassafras Oil. Violet is formed by a combination which includes citral extracted from the East Indian Lemon Grass—which also furnishes an odor closely resembling Verbena and marketed as such. Terpineol, obtained by the action of sulphuric acid on turpentine oil, supplies a strong Lilac odor. Geraniol from the Palma Rosa, an East Indian grass of the geranium order, and Rhodinol, the alcoholic portion of true geranium oil, are the source of the Rose scent of many cheap soaps and perfumes. Amyl Salicylate, produced by treatment of amyl alcohol (see EXTRACTS) and salicylic acid, gives a pleasing Clover odor which is similarly employed.

Coal tar is the most prolific of all sources of artificial perfumes. They are obtained from its numerous products in great variety—some closely imitate the expensive natural essences; others have won popularity as delightful odors not met with in flowers. Many are obtainable at such low cost that they have revolutionized some branches of the perfumery and soap trades. Among the most widely employed are Artificial Musk; the Orange-blossom perfume from naphthol ethers; benzaldehyde or Artificial Oil of Bitter Almonds, and Benzyl acetate, which gives a coarse but pleasing odor resembling Jasmine.

Perfumery Display. Perfumes should be displayed in a glass case of appropriate size and of as elegant appearance as possible—they should never be so exposed to

(1) American (2) Japanese

PERSIMMONS

dust or flies as to endanger the dainty appearance of the packages. Bottles and labels of fancy design are always preferable for retail purposes, but it must be remembered that they do not guarantee quality—careful discrimination should be exercised before laying in a stock, if the perfumery department is to meet with continued success. The grades purchased should be commensurate with the living standards of the community.

PERRIER. See article on table and medicinal MINERAL WATERS.

PERRY: a fermented liquor of pleasing flavor and wholesome properties, prepared from pears in the same way as cider is from apples. The red rough-tasted fruits are principally used for the purpose. The best qualities contain about 9% alcohol, ordinary grades from 5% to 7%. When bottled "Champagne fashion," it has frequently been substituted for champagne without the fraud being suspected.

PERSIAN INSECT POWDER, or *Buhach,* or *Dalmatian Powder:* is the dried and pulverized flower of the Pyrethrum, a plant found in Asia and capable of easy cultivation in this country. It is a very valuable article as it is fatal to all insects, but is not poisonous to animals. It is usually scattered in cracks, etc., by means of a small bellows or air-gun. It is extensively employed in greenhouses and gardens, in addition to its use in stores and residences.

PERSIMMON: a fruit concerning which there is much confusion of information—and misinformation—even in works otherwise generally reliable. This is probably due to the fact that there are two distinct fruits bearing the title—the North American and the Japanese—belonging to the same class and both now grown in this country, but with many points of difference in size and character (see *Color Page* opposite 474).

The native American Persimmon is about the size of a small plum and grows on a big tree which often reaches a height of sixty feet. The Japanese Persimmon ranges from the size of a peach to that of a small melon, and is borne by a tree that is comparatively small.

The American is at its best after it has been touched by frost. It becomes then a veritable sugarplum—its sweetness has earned for it the nickname of the American "Date Plum," and the oddly wrinkled lumps of richly concentrated sugar-flesh hanging among the vari-colored leaves of autumn are as eagerly sought by "Possums" and other wild creatures as by human beings.

The Japanese Persimmon, or "Ka-Ki," or "Chinese Fig," varies widely in quality and shape—from some inclined to be tasteless and dry, to a delicious and juicy type; from perfectly round, to extremely elongated in shape. It is as rich in food values as the banana. It will probably receive much attention in the future, as it is readily susceptible to cultivation, produces with prodigal abundance and stands shipment well. The Eastern market is supplied chiefly by Florida and California.

Unlike the American variety, the Japanese type does not need the frost touch, but neither is it damaged by frost as are most other fruits. It is just right for eating when the skin first begins to wrinkle.

In addition to their excellence for eating raw, both fruits can be easily and successfully dried for future use. The American and the "chocolate" or dark-meated varieties of the Japanese also lend themselves readily to a great variety of preserves, and in several parts of the South the ground roasted seeds are used as a substitute for coffee.

PETITE MARMITE: a famous French soup, now retailed in canned form, which consists of beef stock, together with the meat cut into small pieces, and a variety of vegetables, such as carrots, cabbage, turnips, celery, etc., in long sections. It is of the same order as Pôt-au-feu ("pot on the fire"), the typical home-made beef and vegetable soup of the French peasant, except that it is richer and sometimes contains chicken, marrow bones, etc. The title signifies "little pot," the reference being to the earthenware cooking pot which forms part of the household equipment of every French family. Similar pots, obtainable from crockery dealers, are very appropriate for the service of this soup.

PETROLEUM or *Coal Oil:* is found in many parts of the world. Of the numerous theories advanced for the explanation of its generation, two stand out pre-eminently: (1) the formation of oil from vegetable matter by subterranean decomposition; and (2) its production from carbonaceous metallic compounds. In either case, terrestrial heat is thought to have been the producing agency.

The Indians used petroleum as a liniment before the white man colonized America, and, later on, it was sold as "Seneca Oil," or "Rock Oil," for many years before the present refining processes were devised. The crude article had also been employed in past ages in Europe and Asia, but its use had been discontinued there because in that condition it was not as serviceable or economical as many vegetable and animal oils.

It was in 1885 that the improvement in refining processes began to render the crude oil really valuable. Modern distillation releases a number of important products, divisible for the purpose of this article into four classes—(1) *Crude Naphtha*, the lightest, which in refining gives gasoline, refined naphtha and benzine; (2) *Burning Oils*—KEROSENE in its various grades; (3) *Lubricating Oils* and *Vaseline*, and (4) the solid *Paraffin Wax*. The Burning Oils generally constitute from 40% to 50%, and Lubricating Oils from 20% to 30%, of the crude product.

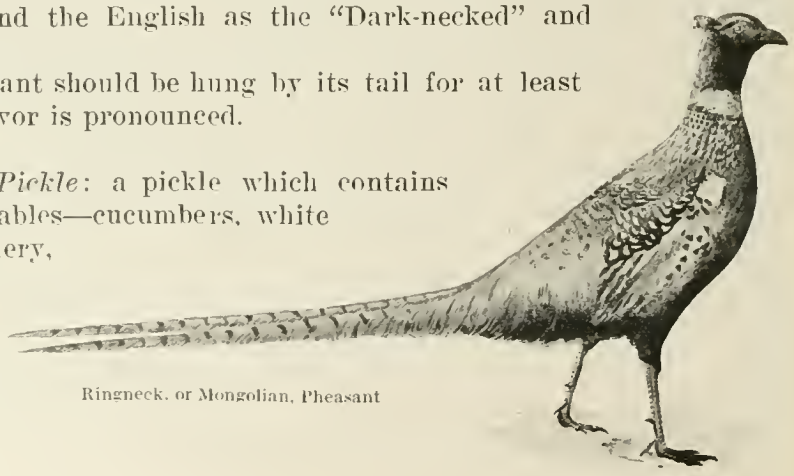
See also GASOLINE, KEROSENE and PARAFFIN.

PHEASANT. The true pheasant is, with few exceptions, found only in Europe, but much attention is being paid to efforts to propagate it here and with good promise of success. Among the best known types are the "Ringneck," a native of China, distinguished by the broad white ring around its neck; the "English," and the Japanese or "Versi-color." The Ringneck is also variously known as the Chinese, Mongolian, Oregon, etc., and the English as the "Dark-necked" and Hungarian.

Before cooking, a pheasant should be hung by its tail for at least a week, or till its gamey flavor is pronounced.

PICCALILLI or *Indian Pickle*: a pickle which contains a large variety of cut vegetables—cucumbers, white cabbage, green tomatoes, celery, cauliflower, peppers, etc.

PICKEREL: young pike, a very gamey fish, in season from June to December.



Ringneck, or Mongolian, Pheasant

PICKLES: a term popularly applied to numerous kinds of vegetables and fruits preserved in vinegar, mustard, etc., and variously flavored. Among the most popular items and combinations are "mixed-pickles," gherkins, piccalilli, chow-chow, chilies, onions, "mango pickles," cauliflower, cucumbers, etc. Large quantities are imported, but the greater part of the consumption is of the domestic product.

One of the most noticeable differences in flavor between American and English pickles is attributable to the general use of malt vinegar in Great Britain, whereas cider or rye vinegar is principally employed here.

There is good profit in pickles, but they require care in handling. Those purchased in bulk are usually delivered in wooden buckets. The best way to maintain their fresh condition, is to transfer them to glass jars with tightly-fitting covers and to place them where the temperature is moderate and uniform and where the dust, dirt and unstable temperature of the street cannot reach them. When taking some out of the jar, it is essential to see that none are left exposed and to avoid taking out too much liquid, for unless pickles are continuously immersed, they quickly dry and become moldy. When the pickles are lighter than the liquid and persist in floating to the top, a plate about the diameter of the jar may be placed over them, with a weight on top. This serves to keep them under and thus greatly assists in preserving them in proper condition.

Pickles should be stirred from time to time, as both strong brine and sweet vinegar have a tendency to sink to the bottom, leaving a weakened liquid on top, in which they are liable to soften and spoil. Any scum forming, should also be removed as it tends to softening. Cider or other table vinegar should be used for refilling leakages in vinegar pickles.

Stock not needed for immediate sale should be stored in a dark, dry, moderately cool place—never on an upper shelf, as it is usually hot there and heat is detrimental. Excessive cold will injure them also—brine pickles do not freeze easily, but vinegar goods freeze nearly as quickly as water.

A paper pail with a close fitting lid, similar to a small oyster pail, is a good package in which to deliver pickles to customers. The pails are light, inexpensive and easy to handle.

A metal dipper should not be used unless of pure tin or silver, and separate dippers should be kept for sour and sweet goods.

Pickles are not especially desirable for window displays, for if kept in the sun for any length of time they lose their color and are thus sometimes rendered unsalable. Exposure in a well-shaded window for a moderate length of time will not, however, hurt them much if proper care is taken to exclude flies and other insects.

The spring is the best season for pushing the sale of pickles. It is, though, also the period when it is most difficult to keep them properly, as a small fly does much damage at that time, particularly to the mustard varieties.

When putting in a stock, select a moderate number of the best selling lines—of those whose purity and quality are unquestionable. It is poor policy to handle any goods that are open to criticism on the question of health. The employment of chemical coloring is unnecessary, for picklemakers can obtain a healthful green coloring by steeping cabbage, spinach or parsley greens in the vinegar.

To test for Copper in Pickles. The use of copper to brighten pickles is highly injurious to health. Its presence can easily be detected by putting a steel knitting needle into a jar—if much copper is present, the needle will soon become coated with it. A

more thorough test is to pour dilute ammonia into a bottle containing a doubtful pickle —the slightest trace of copper will cause the ammonia water to turn blue.

See also articles on CAPERS, OLIVES, PEPPERS, etc.

PICNIC GOODS. See general article under the heading of OUTING SUPPLIES.

PIE PLANT: a familiar title for the cultivated RHUBARB.

PIGEON. In this country there is little favor for the adult pigeon as a poultry bird, though it has always been a popular item in Europe, but the young birds are very highly regarded (see SQUABS).

PIGNOLIAS: a trade title for imported PINE NUTS (which see).

PIKE: a fresh water fish abundant in the Great Lakes, ranging in weight from one-half to eight pounds. It is in season from June to December. There are several varieties, including the "Wall-Eyed," considered the best; the Yellow, the Blue and the "Grass."

Wall-Eyed Pike

PILCHARD: a European fish of the clupeoid family, resembling the herring in general appearance. The young fish is the most highly prized and is famous the world over as the French sardine (see SARDINES). The true pilchard is not found in American waters, but a similar fish is plentiful along the Pacific coast. The young of the menhaden are in some sections colloquially termed "Pilchards."

PILOT BREAD: another name for Ship Biscuit (see HARD TACK).

PIMENTO: the aromatic berries of the Pimento tree, popular known in this country as ALLSPICE (which see).

PIMIENTO, or *Pimento*: a large-fruited capsicum, cultivated in Spain. The flesh is extensively used for stuffing olives, etc. See also PEPPERS (*Fresh*).

PIMPINEL: a salad plant of the Pimpernel family. See BURNET.

PINE NUT, *pignon, pinon, pignolia, pinolia:* the seed of numerous varieties of the pine tree, found in many styles and sizes. Those imported from Italy and the South of France are principally from the Stone Pine, *Pinus Pinea*, and are known here as "Pignolias," or "Pinolias," a corruption of the Italian name, *Pinocchio*. In Mexico and the western states, the native pine nuts, from the *Pinus Edulis* and other species, are known as "Pignons" or "Pinons." The Spanish nut contains more protein but less fat than the American. See general article on FOOD VALUES and also NUTS (*Food Values*).

Pine nuts are used in confectionery, pastry making, etc., and eaten raw, roasted and salted, in the same way as almonds.

Pine Nut Cone

A Pineapple field in Hawaii

PINEAPPLES. The pineapple takes its name from its resemblance to the pine cone, but the title is misleading for it grows on a low, spreading plant. Its native home is tropical South America, but from there it was long ago carried to every tropical and semi-tropical country, and is in Northern Europe raised under glass for wealthy private trade. It is one of the most satisfactory of sub-tropical crops, bearing freely, having few insect enemies and being particular only in the matter of moisture—too much rots the roots and too little reduces the size and juiciness of the fruit.

A new pineapple patch is set out with slips—either the crown cut from the ripened fruit or the shoots which grow directly under it. When from a fine variety, they are rather costly, which accounts for the fact that some growers still waste time raising the poor, hard, woody, old-fashioned types. The new plant takes from eighteen to twenty-two months to ripen its first fruit. When the pines are cut, the plants send out new suckers which produce a second crop, the same process giving generally a third crop. The plants are seldom allowed to bear after the third time, as the fruit then begins to deteriorate.

The first sign of a fruit is the appearance of a tiny "crown" which develops slowly into a miniature of the matured pineapple. Next come, while the pine is still small, a number of pretty little purplish-blue flowers, one tiny blossom in each "eye," but these disappear long before the fruit attains its full size. The flower has but little odor, and even a field of fully ripened pines has less fragrance than would be expected from a fruit so pungently sweet. With miles of pineapples ready to be harvested, there is really little perfume unless one happens to be bruised or injured.

In the West Indies, the source of the majority of our fresh pineapples, there is a well-recognized division of the product into "field pines"—the little hard, reddish fruit which sell from ten cents up on city fruit stalls—and "garden pines," which are to be found in fancy fruit stores at considerably higher prices. The industry there is an old one, and in many sections is more or less cumbered with poor varieties and antiquated methods, but great advancement has been made recently, especially in Cuba and Porto Rico.

Most of the Florida fresh fruit is very good in quality and is improving every year, but the total possible crop there is comparatively small. Other sources of supply are the other Southern States, the Bahamas and Mexico. The two most popular types are the Red Spanish and the Smooth Cayenne.

In buying fresh fruit for immediate consumption, select those which look yellowish on the smooth surface, though this is not conclusive proof of ripeness. If one of the lot prove unripe, set the remainder aside and hold them a few days—they are not likely to spoil and will soon mellow. Ripening storage room must be kept at an even temperature of about 65° to 70° Fahr. It is a good idea to wrap each fruit in thick paper when setting to ripen.

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Loading Pineapples on a Motor Flat-Car, Florida, the tracks running through the pine fields

PINEAPPLE

In preparing a fresh pine for the table, peel off the outer skin, take out the eyes with a patent remover, cut in slices and core with a patent corer.

A still better method, which does not, however, give the even round slices of the preceding directions, is first to remove the outer covering and eyes as above, then stand the pine up on the table, insert a fork in the blossom and, with another *silver* fork, pick away the fruit-flesh from the core in small or large chunks as desired.

In either case, the result will be infinitely superior if the slices or pieces are packed in a glass fruit-jar, covered with sugar, and set in the ice box for at least twenty-four hours before serving.

The pineapple is credited with digestive properties and has other medicinal virtues, but it should not be eaten unless fully mature, as the unripe juices are caustic and are liable to irritate the coating of the stomach.

Canned Pineapple. The bulk of the canned pineapple now consumed comes from Hawaii. The present industry in that country dates from only about 1899, but the product has won its commanding position by both the quantity of the output and the care exercised by growers to ensure an uniformly high grade.

Hawaiian growers have specialized on the Smooth Cayenne, one of the choicest "garden pines," and, both climate and soil conditions being very favorable, the fruits on maturity reach a weight of from six to eight pounds and are entirely devoid of the woody fibre so objectionable in poor grade pines.

Very few of the Hawaiian fruits are exported raw, though some may be found in the Pacific Coast markets, 95% being ripened on the plant and put up immediately after gathering in modern canneries erected on the plantations. All the work is done by machinery, and the cans used are of a size to hold the best part of an average fruit, cut into slices of regular size. The trimmings, which, in the case of those pines running larger than the average, amount to a considerable proportion, are cut into cubes or grated and thus canned, to be used for cooking, soda-fountain purposes, etc. An increasing number are also canned whole, only the skin and eyes being removed.

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Boxing Pineapples, Florida

One of the reasons for the growing popularity of the high grade canned product, whether from Hawaii, Florida, the West Indies or other sources, is that it is impossible to transport fully ripe pineapples any considerable distance without damage, and the fruit does not generally ripen to its full flavor if cut before maturity.

In buying canned pineapple from countries where there is no control of the output, special caution is given against any plain-packed, or water-packed, varieties. Only those put up in syrup have the fine sweet flavor that the customer expects—and of the syrup kind the best are those which consist of selected naturally ripened fruits, i. e., pineapples packed where grown.

Singapore was at one time the chief source of the world's supply, but it has lost much of its importance owing to the improvement of the quality of the fresh and canned West Indian and Florida products and the establishment of the Hawaiian industry.

PINEAPPLE CHEESE: a hard cheese of Cheddar style and attractive appearance. See sub-head in general article on CHEESE.

PINEY TALLOW: an oleo-resinous substance obtained from the fruit of *Vateria indica*, a tree common in Malabar, by boiling it with water. It is intermediate between fat and wax, and makes good soap and excellent candles. It melts at 98° Fahr.

PINON NUT: one of the many names of the PINE NUT (which see).

PINT. See tables of *Weights and Measures* in APPENDIX.

PINTAIL: a wild waterfowl popularly so named because of its long tail-feathers. See DUCKS (*Wild*).

PIPES. The most widely used pipes are Meerschaum, Wood (such as Briar-root and Cherry) and Clay.

Meerschaum is a silicate of magnesia, obtained chiefly from alluvial deposits in Asia Minor. It is also occasionally found on the seashore, washed up by the waves, with the result that it has been poetically, but erroneously, called the "petrified foam of the sea." As mined, it is white and so soft as to be easily cut with an ordinary knife. Long and expensive manipulation is necessary to produce the hard Meerschaum of commerce, the finest quality of which is known as *Spiegel Meerschaum*, or "looking glass" Meerschaum, because of its lustre when colored.

The coloring of Meerschaum pipes is the effect of the smoke, drawn through the pores of the Meerschaum, settling on the waxy surface which is produced by the boiling in wax which forms one of the final processes of preparation.

Briar-root is the extremely hard wood-root of a variety of heath, grown chiefly in Southern France and Italy, "Briar" being a corruption of the French *Bruyère*. Good-sized specimens frequently have a circumference of two to three feet. Before export, the roots are cut into blocks and then boiled.

Amber, shaped into mouth-pieces for the more expensive pipes and cigar-holders, is a fossilized vegetable resin found in bituminous beds along the Baltic Sea. In addition to this use, it is employed in the manufacture of beads, earrings, etc.

Clay Pipes are made from a fine white, or red, clay, known to commerce as "pipe-clay." The pipe is first fashioned "solid," consisting then of a slender stick with a lump on the end for the bowl. When this has slightly hardened, the stem is pierced with an oiled steel wire and the bowl is formed with a brass mold. Next comes "shaping up" with a knife, further drying, baking in a kiln and polishing.

The finest clay pipes are imported from France. They are generally soft and rather creamy in appearance, and easily absorb nicotine. They are made in all manner of fanciful designs, large bowls embellished with heads of public characters being in special demand.

French, and German, manufacturers also turn out a great variety of pipes of red and other colored clays. Gambier bowls, of French clay and handsomely decorated in colors, meet with a steady sale among a certain line of customers.

Dutch clays are usually distinguished from other types by smaller bowls and long, slim stems.

The Scottish "cutty-pipe" and Irish "dudeen" are short clay pipes.

The trade in the *Porcelain bowl* pipes, popular in Holland and Germany, is very limited in this country, and is confined almost solely to the children of "der Vaderland." Americans object to them on the ground that they are not sufficiently porous and easily become heated in smoking.

The numerous other kinds made include several styles with an outer covering of cork; those of "Congo Wood," nearly black in color; others fashioned from gourds, etc. There is also a large sale in many parts of corn-cob pipes, the bowls consisting of sections of the corn-cob from which the inner pith has been removed.

A primitive pipe, still in use in some rural districts of England and the Continent, consists of a stick of elder from which the pith has been removed, with a bowl formed of common clay dried by the kitchen fire. Aubrey, 1680, says that gentlemen smokers in England at first used silver pipes, "but the ordinary sort made use of a walnut-shell and a straw."

PIQUETTE. (1) A thin wine obtained from the grape-residue after expressing for better grades, by the addition of water and sugar. (2) A wine made by the fermentation of raisins or dried grapes macerated in water.

PISCICULTURE: the science of fish-husbandry or FISH CULTURE (which see).

PISTACHIO NUT, or *Pistache:* the kernel of the small, generally reddish, fruit of the Pistachio tree, a member of the cashew family and native to Western Asia, now cultivated in all Mediterranean countries. The nut is inclined to oval in shape, with a smooth, thin, brittle inner shell and light-green meat, very oily and of delicate flavor. Large quantities are used in the manufacture of confectionery, ice cream, etc., and eaten as a dessert nut. See *Color Page* opposite 414 and also NUTS (*Food Values*).

Pistachio Nuts

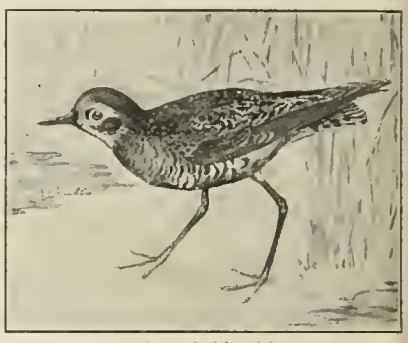
PLACARDS: a very striking mode of advertising, and one which, used judiciously, will result in a good return for the money invested. Grocers will rarely find it an economy to make their own placards, as show-card painters will supply numerous designs of great excellence at very low prices, and nothing disfigures a store more, or more decidedly gives the impression of a poor quality of stock, than clumsy-looking placards. Have good ones or none.

PLAICE: a rather large English flatfish, resembling our flounder, of an average weight of six to eight pounds. Its flesh is thick, firm and of fair flavor. It is seldom, if ever, imported—the "plaice" of the bill-of-fare being generally domestic flounder.

PLANTAIN: a fruit of the same family as the Banana, but larger in size, flatter in shape and coarser and less agreeable in flavor when raw, which serves as a valuable food staple in various tropical countries, to a considerable extent taking the place of the grains, root vegetables, etc., of other latitudes. It is generally cut while still green and firm, and roasted or baked, resembling then the potato in texture and being decidedly pleasing to the palate. It is also dried and ground into a flour which is both convenient and nutritious.

PLASMON: a yellowish powder obtained by treatment of the curd of skimmed milk. It contains about 75% protein and is used principally in special dietaries for invalids.

PLOVER: a genus of birds which includes many varieties, from some no bigger than a sparrow, to the Field or Grey Plover, which is generally a little larger than the Woodcock. The upper plumage of the Field Plover is usually blackish, varied with brown, buff and grey, the lower being whitish with black streaks at the sides. The most highly esteemed type is the Golden Plover, principally imported from Europe, so called from the golden color of its upper plumage and especially distinguished by the great stretch of its wings. Where their use is not prohibited by law, plover's eggs are considered a great delicacy.



American Golden Plover

PLUCK: a common popular term for the heart, liver and lights of small animals.

PLUM: a fruit largely cultivated all over the United States and found wild in numerous sections. It is a development of the SLOE (which see) and originally came from Asia.

Cultivated plums may be roughly classified into *Purple, Red* and *Yellow* or "green," each division including a number of varieties of widely contrasting size, flavor and appearance. The range of sizes is very great—from the big Yellow Egg, which often reaches two inches in length, to some types of the Black Damson, no larger than a good-sized cherry.

One of the most esteemed types is the Greengage, of greenish-yellow skin and flesh. It is unsurpassed in sweetness and flavor and is very popular for canning, in addition to its consumption as a dessert fruit and preserved.

Other favorite kinds are the Golden Drop, White Washington, red-black Columbia and Bradshaw, blue-black Tragedy-Prune and Black Diamond, and two Japanese varieties—the Kelsey and Japan Plum—yellow and purplish-green, both very sweet and easy to keep. California and New York State are the largest producers.

Many alcoholic beverages are made from the fruit, one of the most famous being SLIVOVITZ (which see). In France, two brandies of high alcohol content are distilled from fermented mixtures consisting in the one case of plums, honey and flour and in the other of apples and plums.

Several wild American plums rival the cultivated product in form and color and, not being as sweet, are preferred by many people as dessert fruit. Among the best known examples are the red or yellowish-red Chickasaw and the reddish Beech Plum.

PLUM PUDDING. This palatable dish has been made the theme of many a story and many a song, and since it has been put up in canned form, in 1, 2, 3 and 4-pound sizes, it has become more popular than ever. It is the most convenient dessert dish that the grocer can supply to the puzzled housewife who has to prepare for the coming guest. Large quantities are exported to England, thus supplying John Bull with his national dessert in improved shape!

Blue and Yellow PLUMS

The very earliest mention of plum pudding, or "plum porridge" as the first type was styled, is by Southey in his "Omniana," and this, curiously enough, is not in English but in French. The quotation is from the memoirs of the Chevalier d'Arvieux, and its date is about 1665. It is probable, however, that this Frenchman borrowed his receipt from Great Britain, for he took a voyage on a British forty-ton warship in the year 1658. A century and a half after that date, plum "porridge" seems still to have flourished, for a writer named Brand gives an account of a Christmas breakfast served at the royal chaplain's house in the year 1800, where the first dish was "rich and luscious plum porridge!"

POLAND SPRINGS. See article on table and medicinal MINERAL WATERS.

POLARISCOPE: an instrument now extensively employed for examining subjects in polarized light. One of the most important uses from the standpoint of food supplies, is to determine the amount of saccharose contained in sugars. The chief underlying principle is the fact that when a beam of polarized light is passed through a solution of pure sugar and water, it is rotated or twisted to a certain uniform extent toward the right. When any commercial sugar is similarly tested, its comparative purity is determined by its variance from, or agreement with, the standard of pure sugar.

POLENTA: a pudding popular among all classes in Italy. It was formerly made of chestnut meal, but is now generally of semolina (farina) or cornmeal, except during the autumn months when chestnuts are plentiful. The meal is mixed with milk or water, or a mixture of the two, boiled to the proper consistence and poured into a dish to jellify. When firm and thick, it is flavored according to taste, by grating cheese over it, the addition of various condiments, etc., and is then cut in slices and thus eaten, or is further prepared by a quick frying in oil or other fat. The finest polenta is that made from semolina, and numerous additional ingredients are frequently incorporated by way of variety. Cornmeal is used by the poorer classes.

POLISHES. Metal polishes consist generally of deposits of white clays (silicious or diatomaceous), ground silex or quartz, powdered pumice or similar substances and oxalic acid, incorporated in putty powder, oil, soft soap or turpentine, etc. Other articles sold for the purpose include BATH BRICK, PUMICE and ROTTEN STONE (which see).

Furniture and *Floor Polishes* and *Pastes* are usually composed, in whole or part, of wax and turpentine, together in some cases with oil soap or linseed oil, coloring matter, etc.

Window and *Mirror Polish* can be made by moistening calcined magnesia with benzine. This must be kept stoppered or the benzine will evaporate.

See also BLACKING, EMERY, JEWELER'S ROUGE, SILVER POLISH, STARCH POLISH and STOVE POLISH.

POLLACK, or Pollock (*see Color Page opposite* 250): a fish of the same genus and about the same size as the cod, which is much esteemed fresh, salted, etc. The best of the several varieties is the Common Pollack, with brown-green back and white belly. The Black Pollack, or Coal Fish, named for its black back, ranges from New York northward.

POMEGRANATE (*see Color Page opposite*): a tree native to Persia, but introduced into Europe at a very early date and now flourishing in all sub-tropical countries of both hemispheres.

The fruit, which follows showy orange-red waxy flowers, is about the size of a large orange, with thick leathery rind of brownish or reddish yellow. The interior consists of a delicate sweet or sub-acid reddish pulp enclosing a number of white or purplish-white seeds, giving the appearance of a mass of reddish berries. It is cooling to the palate, and therefore especially pleasing in warm climates, and it lends itself readily to the preparation of summer beverages. Scented with rose water, the juice forms one of the most delicious sherbets of the Levant. Fermented, it serves as the basis of several Persian wines.

Pomegranate Syrup is a popular fruit-syrup, generally known as "Grenadine Syrup"—an adaptation of *Grenade*, the French name of the fruit.

The seeds possess considerable medicinal value but they are not pleasant in flavor, so if for any purpose they are removed from the pulp, by pressing through a sieve or otherwise, care must be exercised to avoid crushing them into the fruit.

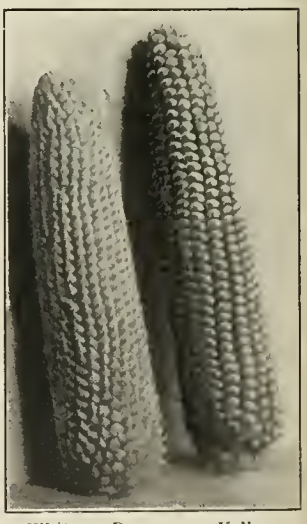
POMEGRANATE MELON. See MELONS.

POMELO: one of the original titles of the GRAPE FRUIT (which see).

POMPANO (*see Color Page opposite* 504): one of the most delicious of Southern fish, especially noted for its fine nutty flavor. It is shaped like the sun-fish, with very small scales of grey color, and weighs from one to five pounds. It is in season from May to July, and during November and December. A few pompano are caught each season off the Long Island and New Jersey coasts.

PONT L'EVEQUE. See CHEESE.

POPCORN: a name applied to several kinds of Indian corn with small ears and small hard grains, with or without sharp points, containing sufficient moisture to explode in roasting. The heat "pops" the corn by breaking the coat of the grain, and the sudden release of the puffed white interior turns it inside out.



White — POPCORN — Yellow

In addition to its popular consumption salted or sweetened in rolls and packages, popcorn, either whole or ground, is sometimes eaten as a breakfast dish with milk or sugar, and it has also found favor as a free-lunch-counter item—loose, salted, in a bowl.

Iowa is the centre of the popcorn growing industry. Cultivation and harvesting are identical with that for ordinary maize, except that special attention is given to the ventilation of the cribs during drying to insure uniformity, as on the thoroughness of the process depends largely the "popping" quality of the grain.

POPPY SEED: of both the Black and White Poppy, is retailed to some extent for use on or in bread, generally of the Vienna shape, and rolls such as the German "Salt-

POMEGRANATE

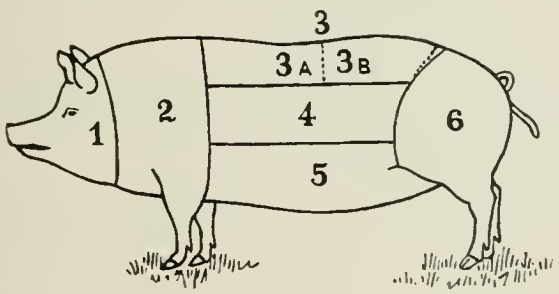
stangen." Analysis shows about 50% oil, and 25% protein and pectins. It is also sold as bird food, then frequently styled "Maw Seed," and is considered an especially desirable diet when birds are molting.

POPPYSEED OIL: is obtained by crushing and pressing the seeds of the opium poppy, but it contains no narcotic properties. The best grades are obtained from the White Poppy, extensively cultivated in both Europe and Asia. Fine "cold-drawn" oil is pale-yellow, almost odorless, and, when fresh, of pleasant taste. It is popular for table use in some parts of Europe, and, commercially, is employed in soap manufacture and various other industries.

PORGY: a small flatfish weighing from one-half to two pounds, plentiful in the markets of the Eastern States. It is in season from the middle of June to the middle of October.

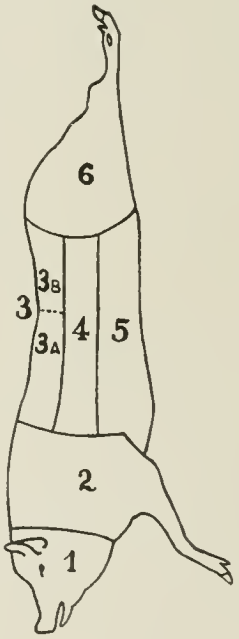
PORK. The title "pork" covers all the flesh, fresh or cured, of pigs or swine, but in ordinary use it is not applied to the flesh when smoked, as ham and bacon. This is another example of the curious changes that have occurred in the English language, for "bacon" was formerly applied to all meat from the pig, of any part and whether fresh, salted or smoked!

A general division of the carcass is shown in the accompanying diagram from a Bulletin published by the U. S. Department of Agriculture.



Pork Cuts

1 Head
2 Shoulder
3 Back Cut
3a Ribs (beneath the Back Cut)
3b Loin " " " "
4 Middle Cut
5 Belly
6 Ham



The Back Cut designated is almost clear fat and is used for salting and pickling, or "corning." The Middle Cut and Belly are generally used for bacon, but also for salting, the former being sometimes termed "lean ends" salt pork. From the Ribs and Loin (beneath the Back Cut) are obtained "spare ribs," eaten both fresh and corned; "chops" and "roasting pieces." The Tenderloin proper is a comparatively lean

and very small strip of meat lying under the bones of the Loin and usually weighing a fraction of a pound.

The Hams and Shoulders are generally cured, but are also sold fresh as "pork steak" and "fresh pork," etc. The Shoulder is in the South frequently sold entire, dry-salted—being then known to many in the trade as the "English shoulder." Throughout other parts of the country it is generally cut into two parts—the "picnic," or "smoked shoulder" (formerly styled "Picnic" or "California Ham") and the "boneless butt" or "regular butt." The "picnic shoulder," plain cured or cured and smoked, is very popular because of its conveniently small size.

The fat trimmed off the hams and shoulders, may be rendered for lard or it may go, with all other trimmings, into the manufacture of sausages.

The leaf fat which lies around the kidneys furnishes the finest quality lard, called "leaf lard" in many localities.

"Larding pork" is very fat pork, from the loin and ribs, cured and preserved with ordinary cooking salt.

The head, feet and tails are eaten both fresh and pickled.

The annual consumption of pork is enormous, attributable partly to its food value, which is enhanced for use in cold and temperate climates by its heating properties, and partly to the fact that it lends itself more acceptably to "curing" than any other form of animal food.

The United States is a long way in the lead as a pork-producer, consuming a high per capita amount at home and shipping vast quantities to Europe and other parts of the world, both for private consumption and for the commissary departments of armies and navies. Ireland is the next largest producer of cured pork.

Pork should be smooth and cool to the touch. If it feels clammy and looks flabby, it is not fresh—and therefore not desirable. If it has many enlarged glands or kernels in the fat or fine black spots in the belly strips, it may generally be regarded as from a diseased animal, and therefore unfit for human consumption.

It should always be thoroughly cooked before eating (see TRICHINAE).

Following are the requirements of the Chicago Board of Trade concerning the cutting and packing of pork:

CUT MEATS.

STANDARD SHOULDERS, should be cut as close as possible to the back part of the fore-arm joint, without exposing the knuckle and butted off square on top; neckbone and short ribs taken out, neck squared off, blood vein lifted and cut out, breast-flap trimmed off, and foot off on or above the knee joint.

SKINNED SHOULDERS, should be cut and trimmed in all respects like the New York Shoulder (see PICKLED MEATS, following), except that in addition the skin should be taken off to the shank and the fat trimmed off within half an inch of the lean.

BLADED SHOULDERS, should be cut the same as Standard Shoulders, except that the shoulder blade should be taken out and the corners rounded.

ROUGH SIDES, should be made by slitting the hog through or on one side of the backbone. An equal proportion of both sides must be delivered on sales to make them Standard.

SHORT CLEAR SIDES, should be cut reasonably square at each end, the backbone and ribs taken out and henchbone and breastbone sawed or cut down smooth and even

with the face of the side. Feather of bladebone should not be removed and no incision or pocket should be made in the side.

EXTRA SHORT CLEAR SIDES, should be made the same as Short Clear, except that all the loin must be taken off the back.

SHORT RIB SIDES, should have the backbone taken out and henchbone and breastbone sawed or cut down smooth and even with the face of the side; feather of bladebone not to be removed and no incision or pocket to be made in the side.

LONG CLEAR SIDES, should be cut reasonably square at both the tail end and shoulder end; the neck taken off and smoothly trimmed; backbone, shoulder bones, and ribs taken out, and the leg bone and blade, henchbone and breastbone sawed off or cut down smooth and even with the face of the side.

EXTRA LONG CLEAR SIDES, should be cut and trimmed in all respects like the Long Clear, except that in addition all the loin should be neatly trimmed down to the fat.

SHORT CLEAR BACKS, should be made from the sides of smooth hogs, from which the bellies have been cut and backbone and ribs taken out, the lean left on, tailbone sawed off even with the face of the meat, and trimmed smooth and square on all edges.

SHORT FAT BACKS, should be made from the sides of heavy, well-fatted hogs, from which the bellies have been cut, backbone and ribs taken out and all the lean taken off, trimmed smoothly and properly squared on all edges.

LONG FAT BACKS, should be made from smooth, heavy, well-fatted hogs, the side to be cut through the center of the ribs, from the ham to and including the shoulder, all the lean taken out, trimmed smoothly and properly squared on all the edges.

CUMBERLAND SIDES, should have the end from which the ham is taken cut square, the leg cut off below the knee joint, the shoulder ribs, neckbone, backbone and blood vein taken out, the breastbone sawed or cut down smooth and even with the face of the side, and should not be backstrapped or flanked.

LONG RIB SIDES, should be made the same as Cumberlands, except that the bladebone must be taken out and the leg cut off close to the breast.

BIRMINGHAM SIDES, should have the backbone, ribs and bladebone taken out, pocket piece cut out and pocket nicely rounded, knucklebone left in, and leg cut off close to the breast.

SOUTH STAFFORDSHIRE SIDES, should be made the same as Birmingham, except the loin is taken out full to the top of shoulder blade, leaving only a thin strip of lean along the back, knuckle left in, and leg cut off close to the breast.

YORKSHIRE SIDES, should be made the same as Cumberland, with the ribs out.

IRISH CUT SIDES, should be made the same as Long Clears, with the knucklebone left in.

DUBLIN MIDDLES, should be cut from light, smooth hogs, and made the same as Cumberlands, except that the leg should be cut off close to the breast. The side must be thin.

WILTSHIRE SIDES, should be made from smooth hogs; the shoulder side and ham left together in one piece, the bladebone taken out, foot cut off, shoulder same as the Cumberland, hip-bone taken out, not to be backstrapped, belly trimmed up even and the leg of the ham cut off above the joint.

THREE RIB SHOULDERS, should be made from smooth, fat hogs, cut three ribs wide, squared at butt, and in all other respects the same as the Standard Shoulder.

PICKLED MEATS.

Standard Sweet Pickled Hams, should be cut short and well rounded at the butt, properly faced, shank cut off enough above the hock joint to expose the marrow, reasonably uniform in size, and to average, in lots, not to exceed sixteen pounds each, with no ham less than twelve pounds, and none over twenty pounds. Three hundred pounds of block weight shall be packed in each tierce, with twenty-two pounds of salt, three quarts of good syrup, and twelve ounces of saltpetre and the tierces filled with water; or tierces to be filled with sweet pickle, made in accordance with the standard given.

New York Shoulders, should be made from small, smooth hogs, shank cut off one inch above the knee joint, butted about one inch from the bladebone, neck and breast flap taken off, trimmed close and smooth, reasonably uniform in size, and to average, in lots, not to exceed fourteen pounds. Three hundred pounds, block weight, shall be packed in each tierce, with pickle the same as for hams.

Boston Shoulders, should be made from medium-sized, smooth, fat hogs, shank cut off about one inch above the knee joint, and butt cut off about two inches above the second knuckle and slightly rounded, neck cut square and breast flap taken off, trimmed close and smooth, and not to exceed twelve pounds average. Three hundred pounds block weight, shall be packed in each tierce, with pickle the same as for hams.

Sweet Pickled Rib Bellies, should be made from nice, smooth hogs, well cut and trimmed, to average, in lots, not to exceed fourteen pounds. Three hundred pounds, block weight, shall be packed in each tierce, with pickle the same as for hams.

Sweet Pickled Clear Bellies, should be cut and packed, the same as Sweet Pickled Rib Bellies, except that all the bone should be removed.

Dry Salted Rib Bellies, should be well cut and trimmed. No bellies that are coarse, bruised, soft or unsound shall be accepted.

Dry Salted Clear Bellies, should be cut, trimmed and selected the same as Dry Salted Rib Bellies, except that all the bone should be removed.

BARRELED PORK.

Standard Mess Pork, should be made from sides of well-fatted hogs, split through, or on one side of the backbone, equal proportions of both sides, cut into strips of reasonably uniform width, properly flanked and not backstrapped.

Each barrel must contain, between October 1 and the last day of February, inclusive, one hundred and ninety pounds of green meat, and between March 1 and September 30, inclusive, one hundred and ninety-three pounds of green meat, numbering not more than sixteen pieces, including the regular proportion of flank and shoulder cuts, placed four layers on edge without excessive crowding or bruising, together with not less than forty pounds of coarse salt, the barrel being filled with brine of full strength; or fifty-five pounds of salt, the barrel being filled with cold water.

Prime Mess Pork, should be made from the shoulders and sides of hogs weighing from one hundred to one hundred and seventy-five pounds, net, cut as nearly as practicable into square pieces of four pounds each; the shank of the shoulder to be cut off close to the breast.

Each barrel must contain one hundred and ninety pounds of green meat, in the proportion of twenty pieces of shoulder to thirty pieces of side cuts, properly packed with not less than twenty pounds of coarse salt, the barrel being filled with brine of

full strength; or, thirty-five pounds of salt, the barrel being filled with water. Each barrel shall also contain twelve ounces of saltpetre.

EXTRA PRIME PORK, should be made from heavy untrimmed shoulders, cut into three pieces, the leg cut off close to the breast, and in all other respects cut, selected and packed as mess pork.

LIGHT MESS PORK, should be made from the sides of reasonably well-fatted hogs; in all other respects to be cut, selected and packed the same as mess pork, except that as many as twenty-two pieces may be put into each barrel.

BACK PORK, should be made from the backs of well-fatted hogs, after the bellies have been taken off, cut into pieces of about six pounds each; in all other respects to be cut, selected and packed in the same manner as mess pork.

EXTRA SHOULDER PORK, should be made from heavy trimmed shoulders, cut into three pieces, the leg to be cut off close to the breast; in all other respects to be cut, selected and packed in the same manner as mess pork.

EXTRA CLEAR PORK, should be made from the sides of extra heavy, well-fatted hogs, the backbone and ribs taken out and the number of pieces in each barrel not to exceed fourteen; in all other respects to be cut, selected and packed in the same manner as mess pork.

CLEAR PORK, should be made from the sides of extra heavy, well-fatted hogs, the backbone and half the rib next the backbone to be taken out, and the number of pieces in each barrel not to exceed fourteen; in all other respects to be cut, selected and packed in the same manner as mess pork.

CLEAR BACK PORK, should be made from the backs of heavy, well-fatted hogs, after the bellies have been taken off and the backbone and ribs have been taken out, cut into pieces of about six pounds each, in other respects packed as mess pork.

See also articles on BACON, HAM and SMOKED MEATS and *Color Page* of SMOKED MEATS opposite 292.

PORK SAUSAGES: are made of pork trimmings, seasoning, etc., put up in casings of various sizes. See SAUSAGES.

PORPOISE: a title correctly applied only to the genus *Phocaena*, but in popular usage extended to a large number of the smaller members of the whale order, especially to the many kinds of Dolphins.

The Common Porpoise is generally about five feet in length, with a smooth, shiny, hairless skin, dark grey or nearly black on the upper part, shading to white on the belly. It usually travels in small companies. The Japanese resembles the Common variety in conformation but is smaller and darker.

Porpoise flesh is highly esteemed in many parts of the world. It is seldom eaten here, but it was formerly much relished in Europe.

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Butchering a Porpoise, Japan

PORRIDGE: a preparation made from the meal of any kind of grain by adding water or milk and boiling until a pulp is formed.

PORT: a strong fortified red wine, produced chiefly in the district bordering on the Douro River, Portugal, and named after Oporto, the city from which it was first, and is still largely, exported. It is of two main types—*Vintage*, from the pressings of grapes of a single season, generally when the crop is especially fine, and *Blended*, the "ordinary" port, obtained by mixing wines of two or more years. Both during and after fermentation, small quantities of brandy are added to retain the sweetness of the "must" by checking fermentation, giving also the strength or "headiness" for which it is noted. All ports are "sweet" by wine standards, but some varieties known as "dry" contain less sugar than the very rich kinds.

The color of young (red) Port is a very dark ruby, changing with age to ruby-tawny and still later to light brownish tawny. When thus naturally developed it is generally of high value, but the process is very slow, requiring at least ten years and often much longer to obtain the desired mellow flavor and distinctive tawny hue, and for general trade purposes the time is shortened by mixing White Port with the Red, the result being a wine less choice to the connoisseur, but nevertheless very pleasing in general style and marketable at moderate prices. Even after blending, the wine needs careful and thorough aging, for Port does not attain its characteristic qualities until it has "rested" for several years. Genuine medium and even low-priced brands range from three to ten years old—after the latter period, the value increases rapidly if the wine is a good type of either "Vintage" or "Blended." The desire for quicker profits has, however, in many establishments substituted extensive adulteration and coloring of younger wines for the aging process, with the unfortunate result that Port has lost some of the high prestige which it formerly enjoyed as a rich dessert wine and a valuable tonic beverage.

In selecting port, the best estimate of its qualities can be obtained by sampling it while munching a dry biscuit or a piece of bread. It should taste pleasantly full and fruity with a nutty dryish after-taste—it should *not* leave either heat, harshness or the feeling of sugar on the tongue. The best time for serving it, is at dessert with the fruit, but it is also very good at luncheon and with bread and cheese, etc.

Port should be drunk at about the temperature of the room. If an old vintage, it should be very carefully poured or decanted, because of the "crust" which forms on the under-side of the bottle. The "thick" wine left in the bottle should not be thrown away—it is excellent for cooking purposes.

White Port is a distinct variety of the color of very dark sherry, from white grapes.

The term *Invalid Port* does not signify a specially medicated wine—it is employed to designate vintage port carefully selected for purity and delicacy and intended for use as a tonic.

Tarragona Port is a Spanish product, resembling the Portuguese wine in general characteristics. It is good for early consumption but it generally deteriorates instead of improving with age.

See also AMERICAN WINES.

PORT du SALUT: a French cream cheese. See general article on CHEESE.

PORTER: a dark-colored malt liquor. See under STOUT.

PORTERHOUSE CUT: the thicker part of the sirloin of beef (see article on BEEF and *Color Illustrations* of beef cuts). Its use and title are credited to a saloon or

"porter-house" situated near the old Fly Market, New York, during the early years of the nineteenth century. Its proprietor, discerning the excellence of steaks cut from the thick end of the sirloin, then used only for roasting, refused to buy any other from his butcher. The fame of the "porterhouse steak" rapidly spread and the term is now firmly established in the language of meats.

Another explanation credits the term to a roadhouse known as "Porter's," located at Cambridge, Mass., during the middle of the last century, which won fame for the excellence of the steaks it served from the cut now known as "Porterhouse."

PORTUGUESE WINES. Portugal makes a large amount of wine, being sixth in the scale of the world production, but with the exception of limited importations of varieties such as Bucellas, both red and white and sweet and dry; Monsao (in several styles) and the ruby Calvel, it is known here only for its PORT (which see).

POSSET: a milk curdled with wine or any other slightly acidulous liquor. It is usually sweetened with sugar or molasses and is drunk hot.

POSSUM: a local abbreviation of OPOSSUM (which see).

POT HERBS: herbs used as "greens," in soups, etc. See HERBS.

POTASH: is, correctly speaking, *Potassium Hydroxide,* but in general usage the title is applied also to various salts of potassium. The best known commercial types are (crude) Carbonate of Potash; Hydrate of Potash (Potassium Hydroxide) or "caustic potash," and Muriate of Potash. It has many industrial uses, prominent among them being employment in the manufacture of soft soap and several special forms of glass, such as "Bohemian," "Flint," etc. Caustic Potash is more alkaline than the Carbonate because of the extraction of the carbon-dioxide content.

Potassium is present almost everywhere—in the water of the ocean, in soil, rocks, trees, plants, etc. The principal present commercial sources are the land deposits in Germany and other parts of Europe, because of the ease with which it can there be separated from the other associated minerals. It was formerly obtained largely from the ashes of timber, plants, etc., and is still so extracted in sections where wood is the principal fuel or where there is a large amount of waste wood.

The word "potash" describes the old method of manufacture—the wood ashes were first dissolved in water and then the water was poured off the residue and evaporated by steaming in large iron pots. The "pot-ash" remained at the bottom of the pot in a semi-granular condition, as the result of frequent stirring toward the end. The name remains, but the product is now generally obtained by evaporation in special furnaces.

Pearl-ash is a partly purified form of Carbonate of Potash.

POTATO. There is difference of opinion as to the discoverer of the potato, but authorities generally agree in describing it as native to South America. It was brought to Ireland by Sir John Hawkins in 1565; and to England by Sir Francis Drake in 1585 and by Sir Walter Raleigh in 1586, but it did not come into general use until the close of the eighteenth century. To-day

in Europe and America, the only food crops which exceed it in value are wheat and rye. Germany heads the list as the greatest potato-using country in the world, averaging 160 acres planted with potatoes to every 10,000 inhabitants, the United States following next with thirty-four acres, and Great Britain and Ireland with thirty-one acres. A considerable percentage of the German harvest is, though, devoted to industrial uses.

It is difficult to overestimate the importance of the potato as a food crop—it has played a prominent part in the improvement of agricultural conditions which has prevented the recurrence of the periodic famines of former ages.

The varieties under cultivation are constantly changing. A certain type will for several years lead the market as the most desirable product, only to gradually deteriorate in quality and eventually to be supplanted by another variety which will run a similar course of mediocrity, success and final failure. In this manner, many kinds which were popular years ago have become almost extinct.

New potatoes from Bermuda are received here during October and November and again about March. Florida generally sends its first supplies in February, but the date varies with the conditions of the season, sometimes being as late as April.

The following are simple and generally reliable tests for ascertaining the quality of potatoes without cooking:

Choose a sound potato at random from the lot, paying no attention to its outward appearance, cut it into two pieces and examine the exposed surface. If it shows so much water or juice that a comparatively slight pressure causes it to fall off in drops, you may be sure it will be soggy after it is boiled. There must be a considerable amount of water, but not an excess. Then note the color—it should be yellowish-white. If a deep yellow, the potato is not likely to cook well. Next rub the pieces together—a white froth, caused by the starch content, will appear around the edges and upon the two surfaces. The more starch, and consequently the more froth, the better the potato; the less there is, the poorer it will cook. The strength of the starchy element can further be tested by loosing the hold upon one piece—if it still clings to the other, it is a very good sign. These are the experiments usually made by experts, and they are generally willing to buy potatoes which successfully stand the tests—but they are by no means infallible.

An exception to the color test is necessary in the case of some imported potatoes —which may be very yellow, yet of high quality.

Too much emphasis cannot be laid on the fact that the green color in potatoes which have grown too near the surface of the earth and have been affected by the sun, is an indication of the presence of an alkaloid poison called *solanine*. It is dangerous and renders them unfit for food. The same effect in a minor degree is produced by sprouting. If such potatoes are consumed, they should be sliced and placed in cold water an hour or two before cooking.

To keep potatoes in good condition, it is essential that they should be stored in a *dark, cool, well-ventilated* place. Excessive dampness should be avoided, but extreme dryness is almost equally bad, as it has a tendency to shrivel them. When the latter result is noticed, they may be packed and covered with sand, the latter being dampened occasionally. A sprinkle of lime over any that are disposed to rot, will act as a deterrent.

Reference has been already made to the importance of potatoes in the food supply of modern nations. It should though always be remembered that, alone, they are

not by any means a satisfactory human diet on account of their overwhelming proportion of starch. They should always be accompanied by other foods to supply the lack of protein (see FOOD VALUES). This lack has, apparently by intuition, always been supplied in those countries where they have been made the chief staple—the Irish, for example, consume quantities of milk; the Scotch, cheese and oatmeal in considerable amount, and the Germans, cheese and allied products. In England and America, the large per capita consumption of meat has supplied the greater part of the protein required.

To retain the highest amount of nourishment, potatoes should be cooked in their skins—so prepared, they have been found by analysis to be nearly twice as rich in potash salts as those peeled before cooking. The skins are easily removed before sending them to table. An exception is made for new potatoes, which should have their loose outer skins rubbed off with a cloth or stiff brush before cooking.

The first preparation should include the removal with a knife of all bruised or damaged parts, worm-holes, etc., and the careful cleaning of all dirt out of the "eyes" and from the rough parts of the skins by means of a brush and water, followed by rinsing in clean water and draining in a colander. If at all dry or shriveled, they may be advantageously left to soak for three or four hours in clean, cold water before cooking.

After cooking, potatoes should never be held in a covered dish, as thus contained they are liable to become sodden. The best method is to serve them in an open dish with a napkin over them—the napkin both retains the heat and absorbs the moisture.

In Europe, particularly Germany, special types of potatoes very high in starch content, are cultivated for use in the manufacture of Alcohol—also known as Potato Spirit and Potato Brandy; Potato Flour, Potato Syrup and Starch.

POTATO CHIPS or **Saratoga Chips:** are very thin shavings of peeled potatoes, cut with a machine, steeped in ice water to draw out the starch and fried in boiling lard. With proper care they remain fresh for a long time. They are retailed both in bulk and cartons and have within the last few years become a free-selling grocery item. For use, it is only necessary to heat in the oven, or in a pan, before serving.

The title of Saratoga Chips is attributed to their having been first introduced by a colored chef at Morris Lake, Saratoga, N. Y.

POTATO FLOUR: is obtained by grinding the tubers to a pulp, as described in the article on STARCH, and removing the fibre by water-washings. The dried product consists chiefly of starch, but also contains some protein. Large quantities are consumed in Europe—in the form of bread, in the preparation of soups, etc. It is also employed to some extent in this country by sausage makers, bakers, confectioners and cooks and for various commercial purposes.

POTATO SYRUP: in Europe, an important commercial product, obtained by imperfect hydrolization of potato-starch. It corresponds to our Corn Syrup, obtained in similar manner from maize-starch (see GLUCOSE).

POTTED CHEESE: prepared ripened cheese, retailed in small jars. See CHEESE.

POTTED, and "Deviled," MEATS: are meats minced to the consistence of paste and seasoned, put up in cans and jars. The "plain potted" should retain the natural

flavor of the meat. The "deviled" are made very hot to the palate by a greater proportion of peppers and spices. The most popular types are those prepared from ham, chicken, turkey, tongue and beef, and various combinations such as ham and chicken, ham and tongue, etc. Other items which find favor but which are in less demand are anchovy, herring, game, rabbit, etc. In the cheaper varieties, pork in the proportion of one-quarter to one-half is generally added to the "character" ingredient.

Potted meats are especially suitable for sandwiches and are very serviceable for buffet lunches, camping parties, picnics and similar occasions.

POULTRY. Within this classification come all domesticated birds bred and raised for use as human food. The most common types are chickens, ducks, turkeys, geese, pigeons and guinea-fowls. Other birds occasionally domesticated for the same purpose are peafowl (peacocks), quail, pheasants and swans. Wild duck, wild turkey, etc., come under "game birds" instead of "poultry."

The Chicken, Turkey, Guinea-Fowl, Partridge, Pheasant, Grouse and Quail belong to the same order, known as *Gallinae* or "Comb bearers." They are distinguished by the flesh of the breast and wings being lighter in color than that of other parts of the body. Ducks, geese and swans are "dark meat" birds. Pigeons belong midway between the two classes, the flesh on the breast being only slightly lighter.

It is estimated that more than 250 million poultry birds are consumed annually in the United States alone.

Good general rules for the selection of dressed poultry, are to see that the eyes are bright; the feet, soft, moist and limber; the body plump and firm, and the skin of clear color—a yellow tint being best liked in this country—and free from bruises or stains. With the approach of staleness, the eyes shrink and the feet dry and harden. At a later stage, the body becomes dark and greenish.

The age can be determined with fair accuracy by (1) the *lower tip of the breast bone,* which should be as flexible in a very young bird as the human ear, becoming brittle at a year or so and hard and tough when older; (2) the *feet,* which are soft and smooth in young, and hard and rough in old birds, and (3) the *claws,* which are short and sharp in the young, and larger and blunter in the older.

Poultry should always be washed before using, the best method being to use a soft brush and warm water in which a little baking soda has been dissolved.

Cold storage poultry should never be allowed to remain in a warm room before cooking. It should be kept at a low temperature until desired for use.

In India it is customary in many parts to skin fowls without plucking the feathers, and country residents who find very troublesome the task of plucking, might avoid it in this way. The method seems radical, but for the majority of culinary purposes, especially for fricassee, the result is entirely satisfactory. The skinning is easily performed by slitting the skin from the beak down the breast to the tail and, laterally, at each wing and leg.

In Italian markets it is a general thing to dismember a certain number of fowls so that customers may purchase separate parts in any quantity needed. Various trays or other receptacles are displayed—one full of breasts, another of wings, a third of legs and others of livers and other "giblets." This method offers many advantages. A housewife with a lean purse can buy a few cents' worth of the cheaper parts, instead of being compelled to purchase an entire bird or deny herself the pleasure of having chicken on the table. Others, to whom the matter of price is not so important, also find

(1) Spanish Mackerel (2) Common Mackerel
(3) Pompano (4) Butterfish
(5) Smelt (6) Bluefish

FISH

STATE NORMAL SCHOOL

it both convenient and economical, as they can purchase any desired quantity of the choicer parts without having to provide a way to dispose of the less desirable portions. A popular dish in well-to-do houses is, for example, a pan of chicken breasts, garnished perhaps with pieces of ham or sausage—to serve such a dish under general American market conditions would probably necessitate purchasing a half-dozen or more whole chickens.

Retailers catering to a "good" class of trade will find that attractive methods of marketing are especially applicable to poultry. Chickens and other birds packed in suitable baskets, lined and covered with linen, white paper, etc., will bring much better prices than the same birds carelessly handled.

The directions under MEATS for their proper keeping, apply equally to poultry of all kinds. See also articles on CHICKEN, DUCKS, etc.

POULTRY SEASONING: a preparation of spices and herbs ready mixed for use in stuffing fowls. It sells easily during the fall and winter holidays.

POUSSE CAFÉ: a "mixed drink" consisting of several liqueurs served together in a small glass in "layers" without blending. Any desired combination can be used if the colors of the liqueurs make a good contrast and if they are so added—the heavier below, the lighter above—that they do not intermingle.

A popular formula consists of a little raspberry syrup (*red*), in the bottom of the glass; then anisette (*white*), *orange* curaçoa, maraschino (*white*), *green* chartreuse and brandy (*golden*) in the order named—the brandy on top.

POWER OF ATTORNEY: is a writing, under seal, giving authority to the person named to act in the stead of the maker of the document. The document may cover only a single act, as to sell a single piece of property or collect a single debt, or it may give authority to conduct or manage an entire business. The first would be a *special,* and the latter a *general,* Power of Attorney.

The act of the attorney binds the principal, when done within the limit of time and authority set forth in the Power of Attorney, and the attorney is not liable himself to third parties if he acts, in such cases, in the name of his principal.

Persons under age cannot appoint attorneys, but they may act as attorneys for others.

A power thus given may be revoked at any time, and always expires at death, except in cases where the attorney holds a personal interest in the matter, as in the authority to transfer or sell stocks to cover a debt due him by the principal.

PRAIRIE CHICKEN, or *Prairie Hen*: a game bird found in the western states. It is now generally styled *American Grouse* (see GROUSE).

PRALINES: a term which was formerly applied only to almond candy—then also known as "sugar almonds"—and especially to confections of burnt almonds, but is now employed for any mixture of nut kernels and sugar.

In the South, the word is used chiefly in connection with sugared cocoanut or pecan meats—particularly the latter, a candy which may be described as native to Louisiana and the manufacture of which in that state seems to be the conceded privilege of the descendants of the old Louisiana Indians whose blood has been inter-

mingled with that of French negroes. In the larger cities, they also have a natural monopoly in peddling it.

For the making, the Indian generally obtains sugar that has crystallized and settled to the bottoms of molasses kegs, because of its delicious flavor. This he sets to re-boil and in the meantime cracks the pecans and removes their meats, exercising great care so as to secure the two halves in unbroken shape. When the melted sugar is ready, he pours it on a flat stone in little pools, three inches or so in diameter, and heaps the nut meats up in them in conical form, pouring a little of the hot sugar on top of each pile to hold the nuts in place.

The true Southern "Pralines" are never made in large quantities, as to be fully enjoyed they should be eaten before the sugar dries out and the mixture loses its aromatic flavor.

PRAWNS: a small shellfish of the lobster type. When taken from the water they are dark-whitish in color, but they are generally boiled before they reach the merchant and in that condition are of a pleasing pink or red color. Fresh prawns, shipped both raw and boiled, are in season from September to March—they are scarce in the summer—but the main consumption is of the canned variety, principally of those caught and canned in the South. The tails are the only portion ordinarily eaten, but the heads may be pounded and used for flavoring soups and sauces. Prawns are in the East frequently but improperly called "Shrimps." *See Color Page opposite* 346.

"PREPARED" FOODS: for invalids and children, include a great number of preparations, but nearly all can be classed as farinaceous—their bases being generally the flour of wheat, corn, rice, barley, lentils, etc., variously flavored and sweetened and frequently malted or partly pre-digested.

PRESERVATIVES. The proper control of the methods of preparing and marketing food products is indisputably of vital importance to the general health. The statutes applying to the subject are not yet perfect in either detail or operation, but recent legislation has appreciably raised the general standard by lessening the use of many chemical preservatives that are more or less detrimental to the human body and by greatly diminishing the sale of unsound foods.

It should, however, be borne in mind that the mere fact that a preservative is a "chemical," does not necessarily signify that it is harmful to the human system. The average consumer has an aversion to the idea of "chemicals" being added to his food —yet salt, which is freely and willingly used by everyone, which is and always has been used as a preservative, and which is acknowledged by both legislative and medical authorities to be harmless, is itself a "chemical." It is probably only the centuries of custom behind its use that prevents it from seeming obnoxious to the average individual—if it had only recently been discovered and had been used only as a "chemical" preservative of foods, consumers generally would almost certainly object to it as a possible menace to health. The advance of scientific research has disclosed other chemicals more suitable for use as preservatives for some foods than salt, and just as free from any obnoxious features—and their use, after proper analysis and experiment, should not be prohibited merely because of their more recent discovery.

The public has some reason for its attitude, for investigations have disclosed the unjustifiable use of many undesirable articles designed to remedy the defects of

unsound foods, but it will readily see the unreasonableness of condemning all preservatives if properly enlightened on the difference between those which are harmful and those which are not, and if convinced of the proper control of the use of those innocuous to the human system.

It must also be remembered that though many foods can be kept good for a long time by the use of salt, sugar, vinegar, spices, etc., and, generally, almost indefinitely by heating or cooking before or during the process of canning, there are others which are not so readily amenable to those processes—or which by their use are liable to lose much of their distinctive flavor or qualities. Further, the natural fermentation which is liable to take place in foods that are not properly preserved, will often produce poisons far more dangerous than even the most pernicious of chemical preservatives.

One of the strongest incentives to the use of unnecessary preservatives, coloring matter, etc., is the desire to retain or imitate the color of the fresh article. Some items are liable under ordinary conditions to change color during preparation, and the packer naturally desires to prevent or remedy this because he knows that appearance counts for a great deal with the average consumer. A big impetus will be given the manufacture of pure food products when the public in general understands that though color and general appearance are excellent points by which to judge fresh food, they are not always reliable in estimating the quality of preserved food. Unreasoning or too keen desire for fine color in the latter may act as a direct temptation to indulge in sophistication, for it is often much easier to put up a fine-looking article by the use of preservatives and coloring matters or bleaches, than to produce a less showy but much more wholesome result without any artificial aids.

To sum up, one may state that food manufacturers should be limited to the use of only such preservatives as have been proved harmless to the human system, and in only such quantities as are necessary to protect good sound food from disintegration. They should not be permitted to avail themselves of any preservatives which do not come within that description, nor to employ even harmless preservatives to conceal or counteract the use of unsound foods—but neither should the food supply of the country be limited to only those articles which can be preserved by salt, sugar or heat, just because we are better accustomed to those three methods.

PRESERVES: a term frequently applied indiscriminately to any kind of fruit preserved by any means and for any use. For purposes of classification, it is better applied exclusively to fruits such as peaches, pears, etc., put up in liquids, which, to a considerable extent, retain their original shape after cooking. The title "jam" is, similarly, best applied to fruit pulps cooked without regard to the original shape of the fruit, and "jelly" to the fruit juices from which the pulp has been removed. Candied or "crystallized" fruit is fruit boiled in sugar to crystallization. See JAMS, JELLY and CRYSTALLIZED FRUITS.

The most widely used "preserved" fruits are those generally known as "canned fruits"—those preserved by sterilization and hermetical sealing, with or without the addition of sugar. See CANNED GOODS and DRIED AND EVAPORATED FRUITS.

PRETZELS, formerly called *Bretzels*: hard brittle twists of dough, shaped into a letter B, dipped in hot lye, salted and baked hard. They are common in Germany, and among Germans in this country as an adjunct to beer.

Pretzel

PRICKLY PEAR: a title popularly applied to the edible fruit of a great many members of the *Opuntia* family of cactus, now represented by one or more kinds in nearly every part of the world. They may be generally described as fleshy shrubs or trees, often of great size, with wide stems and succulent branches. In Mexico and Sicily, the fruit constitutes a large part of the diet of entire communities during the main season of productiveness, the plants being also effectively employed as hedgerows.

"Prickly Pears"

Prickly Pears are found in red, yellow, purple and various other colors. They vary from pear-shape to round, and from an ounce to a pound or more in weight—the most common types ranging from one to three inches in diameter. The skin is, in nearly all varieties, marked by bunches of the small spicules or spines which are responsible for their popular title. As a rule, the best are those with the thinnest skins and fewest spicules. The purplish-red *Tuna Cardona*, and the *Tuna Amarilla*, or Yellow Tuna, are the most highly esteemed.

The fruit is eaten raw—plain or in salads, etc.—and preserved or pickled with lemons or other fruits. In the Southwest, the purple tunas are frequently employed to color jellies. The pulp generally contains a number of seeds sufficiently large in size to be objectionable to the average American—who consequently prefers the fruit in preserved and other forms for which they have been expressed—but the Mexican eats the entire pulp and part of the skin, the spines being previously removed from the latter by rubbing, etc. The flavor is usually rather weak but is distinctly refreshing to the palate, and the food value is as high as of most fruits of popular consumption.

The Mexicans, after expressing the seeds, cook or evaporate the pulp to various degrees, producing a syrup known as Tuna Honey; a moderately stiff paste called *Melcocha*, and a very thick paste or cheese similar to plum or guava cheese. They also dry the fruit and make a fermented beverage from it.

Because of their rapid growth and prolific fruit-bearing habits, the Opuntia cacti present greater commercial and economic possibilities than those of any other genus. Many experiments are being made with the hope of improving the best varieties so as to make them more generally serviceable, as they flourish in soil and other conditions unfavorable to general plant growth. The development of the Spineless Cactus, which has no thorns on the fruit, portends a much wider use—the coarser grades for cattle-feed and the finer for human consump-

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"Prickly Pear" Cactus, California

tion. A recent banquet in Seattle, Wash., demonstrated its versatile utility by its appearance on the menu in nine different forms.

The Prickly Pear is generally known in England as the "Indian Fig."

PRINTANIER SOUP, or *Consommé Printanier*: is a consommé (see article on SOUPS) containing a variety of vegetables, as carrots, turnips, string beans, green peas, etc., the larger ones cut into small pieces, often in fancy shapes. *Printanier* signifies "Spring style."

PROOF SPIRIT. The standard of alcoholic strength in spirituous liquors is termed "*Proof*," which designates, approximately, 49½% alcohol, by weight. Any liquor showing more or less than that proportion is "over" or "under" proof. *Proof*, as the standard, is represented by the figure 100—so whisky said to be, for example, "*98*" or "*101*" Proof is *2 degrees below* or *one degree above* Proof.

PROTEIN: a complex substance of high nutritious value found in nearly all foods, but in particularly large proportions in meat, eggs, fish, beans, peas, cheese, cereals, some nuts, etc. See article on FOOD VALUES.

PROVOLE: an imported Italian cheese. See general article on CHEESE.

PRUNES: are dried plums of certain cultivated varieties. Until as recently as 1890 almost the entire supply was imported from Europe, the principal sources being France, Spain, Austria-Hungary (including Bosnia, Servia, etc.) and Germany, but to-day the general market is fully supplied by California and the other Pacific States, and large quantities of California prunes are exported to every part of the world—among the best customers being Canada, Germany, the United Kingdom, Holland, Belgium, Denmark and Australia. There is still, however, a steady sale of a limited quantity of fine prunes imported from France and also shipments in lesser volume from Germany and Austria-Hungary, the last-named principally of cheap grades and decreasing in importance.

The California industry started with a single tree which a Frenchman by the name of Peller planted there in 1870. At that time the French product led the world. It was soon found that the prune throve on the Pacific coast, and that the hot, dry summer brought out its full saccharose qualities. The first orchard, planted in the Santa Clara valley, just south of San Francisco, now the prune producing center of the state, was laid out by a Mr. Bradley. It commenced to yield in 1875 and, though only ten acres in extent, the trees in four years gave fruit to the value of $14,000.

The present California production reaches from 140 to 160 million pounds. An acre generally averages about one hundred trees, and it is not unusual for a tree to bear 800 pounds of fruit in one season. An interesting point is that the fruit is never grown on its own stocks, but from grafts on wild-plum, peach and apricot stocks in this country and on plum stock in Europe. The best French product is generally gathered from trees grafted on wild-plum stock.

By the French method of treatment, the plums for the finest grades are picked by hand, spread in shallow baskets and set in a cool, dry place until they become soft. They are then placed on sieves and shut in spent ovens. At the end of twenty-four hours they are taken out, but only to be replaced after the ovens have been slightly

reheated. This process is repeated once more, the fruit during the interim being turned by slightly shaking the sieves, and then they are removed and allowed to become cold. Finally comes the packing in cans, tin boxes and glass jars, which are hermetically sealed and labeled.

The drying process requires a considerable degree of skill, the aim being to develop the saccharose of the prune without changing its flavor or detracting from its fruity character.

Some packers follow the drying by various supplementary treatments, giving the fruit a dark color by means of a harmless pigment, coating it with glycerine to retain its moisture, etc.

The largest fruit of the highest grade of French prunes, number about 30 to the pound. From this, they run up in number and down in grade to 130 to the pound. The figures 50 to 55, 80 to 85, etc., which occur in price-lists, refer to the number of prunes to the pound.

It takes an average of 2½ to 3 pounds of the fresh fruit to make one pound of prunes, the difference representing the evaporation of the water content.

By the California method, the fruit is generally allowed to fall from the tree in order to secure the fullest ripeness and consequently the greatest possible sugar content. Drying in the sun is also substituted for the oven-drying of the French process, being preceded by hot and cold immersions. The prunes are finally graded into ten chief sizes—20 to 30 to a pound, 30 to 40, 40 to 50, 50 to 60, 60 to 70, 70 to 80, and so on, the bulk of the product being marketed in boxes of five pounds and upward. The smaller "fancy" packings include a number of glacé types, stuffed with apricots, nuts, ginger, etc. The canned product ranges from small "individual" cans holding only 8 or 9 prunes, up to the gallon size.

California prunes, in addition to their fine flavor, are rendered very desirable by the use of sterilizing machines, which clean the fruit at a high temperature and destroy all bacterial life.

No fruit can boast higher food value than prunes, for they contain large amounts of both protein and easily digestible sugar. They are also valuable as a laxative and the water in which they are stewed is for this reason frequently employed as a vehicle for purgative medicines.

It seems a pity that cheap humor and poor jokes should be laid so heavily on such excellent, serviceable fruit, which is always good, always in season and capable of use in a great diversity of ways—stewed alone, or with tart plums, orange, lemon, spices, etc.; in pies, puddings and cakes—but the reason for slandering them is, perhaps, to be found in the wide ignorance concerning their proper preparation. The public is not so much to blame for this as would-be cooking teachers and writers. Nearly every writer tells you to "soak the prunes over night." This is wrong. Prunes that are soaked over night and then stewed, become soft, mushy and water-soaked—the flesh disintegrates and the fruit loses both flavor and shape.

Instead of ruining the fruit by soaking it, rinse it in scalding water and wash thoroughly in cold water; then strain through a colander and place it in a cooking vessel (porcelain preferred), add as much water as fruit and set on the back of the stove or range to simmer until tender. *Do not boil.* You will thus obtain stewed prunes that are tender but firm in flesh, palatable and in every way delicious.

No sugar is needed for good California prunes, but Oregon prunes are more tart and are generally improved by about a tablespoonful for each pound of fruit.

Brignolles Prunes, or *Prunelles,* or *Prunellos*: are trade names for a small acid variety of French prunes, peeled before drying and with stones removed before being offered for sale. Their flavor suggests apricots. The French *Prunelle* is the SLOE.

Ruby Prunes, are fruit plucked and processed just before ripening. They are ruby-red and more tart in flavor than those fully ripened.

Silver Prunes undergo a special process which leaves them a light yellowish color, looking somewhat like mammoth "Sultanas."

PRUNE COGNAC: a liqueur similar to SLIVOVITZ (which see).

PTARMIGAN: a game bird of the Arctic regions. See GROUSE.

PUFF-BALL (see page illustration of *Edible Fungi* in article on MUSHROOMS): a large species of fungus with properties and flavor resembling the mushroom, which could easily be developed into an important source of food supply. It is found in several parts of the United States, both in prairie and woodland, but generally favoring the vicinity of old and decaying timber. It is of various shapes, but generally round or nearly so, with white or cream-colored exterior and of various sizes—from the small puff-balls on tree-stumps to the Giant Puff-ball (*Calvatia Maxima*), which grows from ten inches to sometimes nearly three feet in diameter. The last-named is the most desirable for edible purposes. It is eaten before ripening, the flesh being then white, elastic and fragrant—generally cut in slices of an inch or so in thickness and then fried, preferably in butter. It is especially pleasing if dipped in egg yolk before frying, and lends itself readily to divers other forms of preparation. Many of those accustomed to its flavor consider it superior to the mushroom.

The smaller types (*Genus Lycoperdon*) include a cup-shape puff-ball, some varieties white, others light buff, with white or reddish network on top.

The puff-ball takes its name from the fact that after drying, when squeezed, it emits its spores in puffs like smoke. A great advantage which it has over many edible fungi is that there is no poisonous variety that in any way resembles it. When you find a puff-ball, no matter what the size, it is always something safe to eat—though if it is ripe it becomes streaked with yellow or olive and loses its delicacy. If left undisturbed, the puff-ball is eventually transformed into powdery "spores" or seeds.

PUFFED RICE. See sub-head at end of article on RICE.

PUFFED WHEAT: is made in the same way as *Puffed Rice* (see RICE).

PULQUE, or *Pulque Maguey*: the common beverage of the central tableland of Mexico, corresponding in some respects to our beer, but generally containing a higher alcoholic percentage. It is obtained by the fermentation of the sweet liquid known as "Manso," produced by the Maguey, a plant belonging to the Amaryllis family (which includes the Century Plant, etc.), which grows wild throughout all Mexico and Central America. The best is that produced in the Mexican states of Hidalgo, Tlaxcala, Puebla and Mexico.

Just before the plant begins to flower, the upper leaves are cut off, the operation being called "capazón." This induces the sap to accumulate in the denuded stems. The

secretion is further stimulated by the removal of the mucilaginous coating which forms in the hollow, the operation being called "raspa," and the hollow itself "cajete." The "cajete" is covered by a stone to preserve the liquid—which thus in its fresh state is called "Agua-miel," or honey-water. At the proper time the Agua-miel is pumped or sucked through a tube called "acocote," by men called "tlachiqueros," and passed into skins, generally pig-skins, as will be noted in the accompanying illustration. It goes next to large fermenting tanks, and is allowed to ferment until it becomes white and viscous and gives out a characteristic alcoholic odor, when it is known as *Pulque.* In that condition it contains from 4% to 8% alcohol.

Pulque must be drunk within a few days of making or the natural continuation of the ferment process spoils it. As a consequence, supplies for Mexico City, for example, are sent in daily by special trains, much as milk into American cities.

The unfermented liquor, *Agua-miel*—a cool-looking yellowish beverage—is also consumed to a certain extent.

Mescal (or *Mezcal*) *de Pulque*, or Pulque Brandy, *Tequila* and *Huila* are distilled alcoholic liquors, from the sap or the fleshy bases of several varieties of the Maguey.

Some effort has been made to introduce Pulque in this country, in various forms for both medicinal and table use, but it has met with only a small degree of public favor.

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Extracting Pulque from the Maguey Plant, Mexico

To produce intoxication by drinking Pulque implies copious consumption because of its comparatively low percentage of alcohol, but its abuse in Mexico has been increasing for many years, and public opinion is crystallizing against it. Those who defend its moderate use assert that, in addition to its stimulating properties, it possesses highly valuable nutrients in its heavy azotic elements.

The first use of Pulque is lost in historical mists—it was a popular beverage long before the first European set foot in Mexico. The ancient Toltec race had for generations made and consumed it.

The Maguey, left to its natural course, spends ten to fourteen years in obtaining mature growth, consisting then of from twenty to fifty huge succulent leaves surrounding a large fleshy base, a plant of good size weighing a ton or more. When fully developed, it sends up an enormous central flower stalk, often a foot in diameter and ranging from twenty to fifty feet in height, crowned with a candelabra of greenish white blossoms. After the ripening of the seeds, the plant withers and dies, its first blossoms being also its last.

The fleshy bases of some varieties are a valued food in many parts of Mexico, and the big flower heads or buds, taken just before flowering, are enjoyed as a sweet preserve after slow roasting and baking in furnaces or pits, changing during the process to a rich dark brown and becoming sticky with sugar. The buds often weigh from 100 to 200 pounds each and are retailed either entire or by separate leaves.

PULSE: the fruit of leguminous plants. See LEGUMES.

PUMICE: is coarsely cellular lava, so porous that it floats until saturated with water. It is extensively employed as polishing material, chiefly in pulverized form.

PUMPERNICKEL. See sub-head in general article on BREAD.

PUMPKIN: the most highly prized of the squash family, grown in many varieties and varying in size from that of a large orange to a weight of fifty or more pounds. It is occasionally cooked as a vegetable, but its principal use is in the form of "pumpkin pies." The season begins in this country in November, continuing to February or March.

Pumpkins may be kept fresh until spring if fully ripe when gathered and the storage place is dry, cool and protected from frost. The best method is to place them on shelves, seeing that they do not touch each other and occasionally wiping them off with a dry cloth. Peeled, cut up, sun-dried and properly stored, they can be used all the year.

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Pumpkins in a Pennsylvania Cornfield

PUNCH: a beverage variously composed of wine or spirits, sweetened, flavored and, generally, diluted with water. It takes its title from the distinguishing ingredient, as Milk Punch and Brandy Punch.

PURSLANE: a garden weed with thick, fleshy stalks and leaves, which is sometimes eaten cooked, both fried and boiled.

PUTTY: a pasty cement preparation made chiefly of whiting and linseed oil. It is employed for fixing window-glass in the frames, filling crevices in woodwork, etc., as it dries to remarkable hardness.

A cheap and effective substitute for putty to stop cracks in woodwork, is obtained by soaking newspapers in a paste made by boiling a pound of flour in three quarts of water and adding a teaspoonful of alum. The mixture should be of about the same consistence as putty, and should be forced into the cracks with a blunt knife. It will harden like papier-mache, and when dry may be painted or stained to match the boards, when it will be almost imperceptible.

PYROLIGNEOUS ACID: a crude form of ACETIC ACID (which see).

QUAHAUG, or *Quahog*: the Indian name for the hard clam (see CLAMS).

QUAIL. The bird which is most generally accepted in the United States under this title, is really the Bob-White—which differs from the quail proper in several respects and is in many points its superior. It is exported to England and elsewhere under

the name of *Virginia Quail*. Its upper plumage is reddish-brown, flecked with black and white, and its under-parts are white or buff with black markings (*see Color Page opposite* 260). The average market weight is about five pounds to the dozen, but some specimens are considerably larger.

The quail proper is a European bird, smaller than the Bob-White, of variegated plumage, the most noteworthy markings being the buff or whitish stripes over the upper-part. The tail is short and thin, and the bill weak and undeveloped.

History tells us that in ancient times the Israelites, wandering through the deserts, fed on quail—and still to this day they are so plentiful in Egypt that the people cannot consume fresh the numbers captured during the season for hunting them, and large quantities are salted down or dried in the sun for future use. At migration time, sections of the southern shores of the Mediterranean are almost covered with the birds and they are shipped alive, by the steamer-load, from Algiers and Alexandria to Marseilles, to be thence conveyed to all parts of the Continent. The coveys that make the flight across, reach the European side so fatigued that they are easily caught with nets, and not infrequently by hand, being too wearied to move when approached. The Greek and Italian peasant-women dress them as for market, flatten them between boards loaded with stones and then pack them in jars with layers of salt. This salt quail-meat forms an important article of commerce and is exported in small casks to London, Paris, Berlin, Vienna and Amsterdam.

QUASS, *Kyass, Rye Beer, Barley Beer*: a Russian beer made from rye or barley, frequently flavored with apples and other fruits.

QUINCE: a fruit of the apple and pear family, native to Southern Europe and Asia, now cultivated in every temperate climate. It was an article of popular consumption among the ancient Greeks and Romans and is credited with being the original marmalade fruit (see MARMALADE). It is in season here from October to December, Western New York supplying the greater part of the American crop.

Quinces

The tree grows to a height of fifteen or twenty feet, with branches numerous, crooked and distorted; leaves dusky green above and downy on the under side, and flowers similar in shape to apple blossoms, but larger and more open and white or of pale pink tint. The fruit varies in form from round to pear-shape and when ripe is of a rich yellow color and of strong odor.

The best varieties are the "Apple," "Pear," and "Portugal." The Apple, or "orange" quince as some know it, is generally rated as the finest, because of the exceptional tenderness of its flesh and the excellence of its flavor.

Large smooth fruits are generally considered the choicest. They require very careful handling, as bruises rapidly develop into dark brown discolorations. If kept stored in a cool, dry place and occasionally wiped off with a dry cloth, they can be kept fresh and good for a considerable length of time.

Quinces are not eaten raw, but they are delicious in the form of jam, jelly and sauce, plain-boiled to eat with sugar, etc. They share with the apple and guava the distinction of being the best "jelly" fruits.

The seeds or pips abound in gummy matter which forms, on dilution with water, a mucilage possessing the advantage of not being affected by alcohol or salts of iron.

QUINOA, or *Goosefoot*: a plant cultivated in the elevated regions of Chile and Peru for its seeds, which are made into cakes, soup, beer, etc. It has the unusual merit of flourishing at a height of 13,000 feet above sea-level. It is grown to a limited extent in England, where the young leaves are consumed as "greens" and the ripe seeds are valued as food for poultry and swine.

QUINTAL. See tables of *Weights and Measures* in APPENDIX.

RABBITS: a family of small rodents of the *Leporidae* genus. In some sections of the United States the name is applied also to members of the hare family (see HARE). In the Central Western States, the hare is distinguished by the appellation "jack-rabbit," the rabbit being colloquially known as the "cotton-tail." The animal multiplies very rapidly—its increase to the proportions of a pest in Australia is a matter of common knowledge.

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Two loads of Rabbits, to be frozen for export. The wagon on the left contains 600; that on the right, 1220
Photo taken near Tarana, New Zealand

The flesh makes good eating, both fresh and canned, if the animal is young and plump. The age of the fresh carcass may be ascertained by the ears—if they tear easily it will be found acceptable on that score. If they don't, no argument should induce one to purchase, for an old or soft, limp rabbit will never give satisfaction.

Rabbit meat is subject to somewhat curious prejudices. In England and France, it is eaten and enjoyed in enormous quantities, but in this country it is not popular and the sale is comparatively small—and, curiously enough, this dislike is shared by West Indian negroes, though they greedily devour snakes, toads and centipedes!

Great numbers of rabbits are raised in Belgium for export alive to England, but the business of canning the meat is centered principally in South Australia and New Zealand.

The rabbits are caught at night, dressed with the skins on and taken by the cartload to the factories. There the heads are removed—to be afterwards boiled down for jelly—the legs cut off, and the pelts laid aside. The bodies are slightly salted to remove the blood, then washed, chopped up in suitable sized pieces and canned in the usual method, except that the first boiling of the cans is exceptionally long.

Domestic rabbits should not be eaten unless they have had wide, free range.

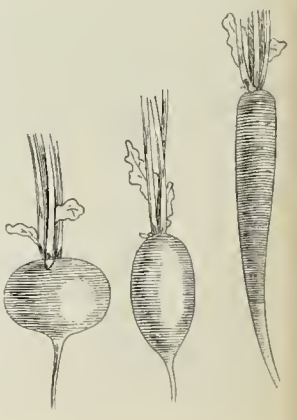
The *Belgian Hare* is a large variety of rabbit, which resembles the Common Hare in appearance but has no real relation to it. The flesh has the same flavor and characteristics as that of the common rabbit.

RACAHOUT, *Racahout des arabes*: originally an Arabian beverage, made from roasted acorn meal, sweetened with sugar and flavored with aromatic herbs. The title is now generally applied to a food prepared from potato flour, tapioca and cocoa flour, flavored usually with vanilla. It resembles arrowroot and is intended principally for children and invalids, either as a beverage or cooked to thicker consistence.

RACCOON, or *Coon*: a small nocturnal animal of the American bear family, which generally averages about the size of a large cat. It is common in various parts of North America and is considered good game by many people. It is marked by very short legs, a furry coat of brown or gray-brown and bushy tail, generally ringed in black and white.

RADISHES: have practically no nutritive value, as they consist principally of water and wood fibre with a little acid for flavor, but they are so popular as a relish that they constitute an important item of the market gardener's crop. The season of the fresh-pulled radish extends from early spring, when forced varieties appear, to late fall, successive plantings giving a continuous supply of young roots.

There are almost innumerable varieties, in all sizes, shapes and colors. Early radishes are generally the smallest and winter types the largest. The three chief divisions by shape are into the Round, Olive-shaped and Long. The principal colors are red, white, yellow, purplish and black. Under proper cultivation there is little variation in quality among standard varieties, but the Red, and Red and White, are usually preferred, because of their bright, pleasing appearance.



Round Olive-Shaped Long
RADISHES

Winter radishes are generally of slower growth than the spring and summer types and some attain very large size, a few kinds reaching a length of 15 to 20 inches without becoming woody or woolly. They are generally pulled in the late fall and kept through the winter by storing in dry cellars or similar places.

The radish is believed to be a native of Asia but is now cultivated in all temperate climates, being brought to its highest perfection by the gardeners surrounding Paris. The young seed pods are occasionally eaten as string beans and the small young leaves of the spring and summer varieties make an excellent salad.

RAIL: a name applied to a class of birds which contains many different varieties, distributed over many countries and ranging in size from the small *Sora* to the big *Clapper Rail*. The Marsh rails, numerically the most important, are marked by the peculiar formation of their bodies—which are broad and blunt behind and very narrow in front, this shape enabling them the more readily to make their way in, through and around the tall reeds of their marshy homes.

Sora Rail

The best known market type is the Virginia Rail, or Sora, also called "Carolina Rail," which has upper plumage of greenish or golden brown with black and white markings, the front of the head and throat black and the under-parts brownish or slate colored with black and white bars. Plucked and ready for market, the birds average in weight from two and a half to three pounds a dozen.

The *King Rail*, also marketed but to lesser extent, is about twice as large as the Virginia Rail.

RAISINS: are special varieties of grapes prepared by drying. The term "dried grapes" is only applied to *wine* grapes dried in the sun and their only commercial use is for wine makers—they are not sold or used as "raisins."

The first market division is into *Imported* and *Domestic*, or California.

Imported Raisins. The principal types are Malagas, or Muscatels, Valencias and Sultanas.

Malagas, or *Muscatels*, the finest grade, are prepared by partly cutting through the stalks of the grape bunches and allowing them to dry as far as possible on the vine. *Valencias* are dried after being taken from the vine, either in the sun or in ovens. In both cases the fruit is next dipped in an alkali solution, which slightly cracks the skins, and then washed, laid on benches to drain and dried in the sun (when possible) for two weeks. The raisins are then ready for packing—in casks, boxes, cartons, etc. They vary in quality from the best "cluster" and "layer" to the cheapest "loose" raisins. "Layer raisins" are those of fine quality, packed in bunches between sheets of paper. "Cluster" signifies "bunch."

Lexias is a term sometimes applied to raisins more suitable for cooking than dessert use.

Sultana Raisins, or "Sultanas" as they are generally styled, are small, oval, naturally entirely seedless, and, in the best grades, of a pale yellow transparent tint. They come from Smyrna, but there seems to be no essential difference between the vine which yields them and the ordinary grapevine—the special characteristic of seedless-

ness may have been produced by exceptional circumstances of soil and climate, leading to partly abortive flowers.

Corinthian Raisins is another name for CURRANTS (which see).

California Raisins: are divided into Layer, Seeded and Seedless.

Both the *Layer* and *Seeded* are made from Muscatel grapes. The clusters are cut from the vines when thoroughly ripe and placed on wooden trays in the vineyard, as shown in the accompanying illustration. When they have wilted sufficiently, an empty tray is placed over the full tray and by a quick movement their positions are reversed, so that when the top tray is removed the "raw" under-sides of the clusters are exposed to the sun. After the completion of the drying process, the raisins are dumped into "sweat boxes," holding about 150 pounds each, and are thus delivered to the packing house.

Drying raisins in Southern California

One of the next steps is the sorting. The finest "clusters" are packed in 5, 10 and 20-pound boxes, but the greater part of the crop is stemmed, seeded and packed in 1-pound cartons.

The first "stemmer," which resembles an old-fashioned threshing machine, removes the large stems. Then the "cap-stemmer" removes the small cap-stems still adhering. The fruit is next graded in sizes known to the trade as 2, 3 and 4 "crown" and goes to the "seeder," in which rubber or similar surfaced, rollers flatten it and press the seeds to the surface, where they are caught and removed by the teeth or needles of the impaling rollers. The seeds are removed from the rollers by a "flicking" or "whispering" device, and are passed to a receptacle to be sold as a by-product which is increasingly important.

California Seedless Raisins are of two kinds—Seedless Muscatels, a small percentage of the muscatel crop, and Thompson Seedless, corresponding to the imported Sultanas. Thompson seedless raisins are prepared by dipping the grapes before drying in an alkali solution to which is added saponified olive oil, and by sulphuring. The result is an attractive product of light color and fine flavor.

The domestic raisin product amounts to about 65,000 tons annually.

RAISIN SUGAR: a moist syrupy brown article, retaining the raisin flavor in the finer grades, obtained in the Levant by expression and filtration. Small quantities are imported to fill the demands of resident Orientals, generally in cans containing from one to five pounds.

RAISIN WINE: is extensively made in Europe by the fermentation of an infusion of raisins, with or without the addition of fresh grape juice.

RAISINÉE: a French jam of thin, almost syrupy, consistence, made by simmering fruit in sweet wine or cider and condensed by boiling for eight to ten hours. The original and best product is prepared from pears, together with a small proportion of quinces. Apples, squashes, beet-roots, etc., are substituted for inferior grades.

RAMPION: a garden herb, of which the young leaves and succulent white roots are used for salads.

Rampion

RAPE OIL: is obtained from the seeds of the Rape plant, a member of the turnip family, cultivated in both Europe and Asia. It is employed chiefly in soap manufacture, for dressing wool, as an illuminant, etc. The crude fresh product, if cold pressed, is almost neutral in smell and taste, but age gives it a rank flavor and refining spoils it for table purposes. Commercially, the term "rape oil" covers in addition that expressed from several other seeds, as those of the turnip proper, radish, etc. The seeds are also known as "Cole Seeds."

The leaves of the plant are locally consumed as "greens" and in salads.

Rape Seed is imported for sale as bird food.

RASPBERRIES: grow wild, but only the cultivated types are generally marketed. In addition to the great quantities eaten fresh, they are widely used as jam, jelly,

syrup, etc., and mixed with brandy, wine or vinegar. An agreeable "wine" is also obtained by their fermentation, either alone or with currants or cherries.

Raspberries are generally in season from the middle of June to the middle of August. It is essential that they be sold quickly, as they deteriorate very rapidly after ripening and their delicate flavor is often entirely lost after holding for a few days. Care should be taken that moisture does not reach them and that they are kept in a cool, well ventilated place.

The red berry is the type most generally familiar as a fresh fruit, but the black raspberry, or "Black Cap," has practically the same qualities and flavor and is extensively employed for both canning and evaporating. Some sections produce the yellow raspberry also to a limited extent.

The business of evaporating raspberries has attained important dimensions, but the product is consumed principally in mining camps and other remote sections where fresh fruit is not generally obtainable. For sauces, pies, etc., it answers the purpose nearly as well as the fresh berries.

RASPBERRY VINEGAR: is a preparation of raspberry juice, vinegar and sugar. It is best made by filling jars with carefully gathered, very ripe berries, adding all the vinegar they will hold, setting to stand for eight or ten days, and then carefully pouring off the liquid. This process is sometimes repeated three times—the same liquid, but fresh fruit being employed. Finally comes a gentle boiling for five minutes with an equal weight of refined sugar, and then bottling. As a flavoring for either plain or carbonated water, used in the same way as any other fruit syrup, it makes a refreshing summer beverage.

RAT: a most destructive pest and one which should be vigorously exterminated. If a grocer finds his store over-run with them, he should get rid of them at once, for their destructiveness to property is astounding. A good cat is the best remedy. Good traps will also often answer the purpose. If poison is used and any of them die about the premises, chloride of lime or other disinfectants will neutralize the odor.

RATAFIA: a common name in France for many light liqueurs, especially those which owe part of their flavor to the addition of Oil of Bitter Almonds (see ALMOND OIL). It is also employed as a title for an essence based on almond oil and in the South is applied to herb or fruit-juice beverages strengthened with brandy, variously spiced and matured in bottles for six months or a year before drinking.

"Ratafia cakes" is a class name for small cakes flavored with almonds, etc.

REAM. See tables of *Weights and Measures* in APPENDIX.

RECTIFICATION. (1) The re-distillation, etc., of a fluid, for the purpose of rendering it purer. (2) The re-distillation of spirits other than as provided for on distillery premises. (3) The blending of spirits, wines, etc.

REDSNAPPER: a red-scaled Southern fish, plentiful along the Gulf Coast. It ranges in weight from three to twenty pounds and is in season from October to the middle of July. The flesh is very white and resembles bass.

Redsnapper

REED BIRDS: a name given to many kinds of small birds which frequent reeds. In this country the bob-o-link or "rice-bird" is most generally so named and served. When prime for market after feeding in the rice fields, they are very plump—they have been described as "little balls of fat."

REFRIGERATORS. It is poor economy to try to get along with an old or inferior refrigerator. Inadequate or inferior cooling equipment is very expensive—for it means both loss by the spoiling of foods and damage to the reputation of a store. Nothing renders customers more suspicious of a grocery store and its stock than butter which smells "queer"—and many other items are equally susceptible. The butter may be perfectly wholesome and the foreign odor merely a taint borrowed from some other article in the refrigerator, but the storekeeper gets the worst of the doubt every time. And, again, the suspicion may be justified, for a poor refrigerator is liable to damage more than it saves.

The main points to be looked for in choosing a refrigerator are:

(1) The most complete general insulation possible—so that the ice is not wasted.

(2) Thorough internal circulation of dry air—which is essential to the proper keeping of foods.

(3) Correct inside arrangement and insulation—so that the odor of one thing does not permeate the other.

(4) Convenience of arrangement—compartments, shelves, etc., to suit the business.

(5) Sufficient space—for it is expensive parsimony to purchase a refrigerator so small that a little extra stock will over-crowd it.

(6) Neatness of appearance—to make a good impression on your customer.

See also ICE AND REFRIGERATION.

RENNET: is a digestive ferment extracted from the stomachs of young calves by soaking them in salt water for several weeks. Large quantities are used commercially, especially to coagulate milk and particularly in the manufacture of cheese. It is also employed in the household to make many desserts of which milk is the foundation, being for that purpose retailed both in tablet and liquid extract form.

RELISHES: a trade term variously applied to pickles, sauces, etc.

RESTAURANT. The restaurant, as we know it, is an institution of comparatively recent origin. There have been inns and hotels from time immemorial, but they were chiefly for the entertainment of travelers—though we find evidence that even as early as the 16th century a goodly number of the residents of Paris had discovered the ease and convenience of dining in hotels, for a pamphlet of that period, entitled "A Treatise on the cause of high prices," bitterly assailed certain popular establishments for their example of luxurious living and its effect on the habits of the community! This condition was, however, apparently peculiar to Paris and even there the establishments so favored were exceptional and their customers drawn from a limited class. The tavern and, in France, the cabaret, also gave some degree of service, but they were essentially places of liquid refreshment and generally of ill repute—if one wished to eat a substantial meal, it was in most cases necessary to order it in advance or to bring one's own supplies. There were also *rôtisseries* in the larger cities of France at a very early date, and *traiteurs* from about the 16th century, but the

rôtisseries were forbidden by law to sell anything except roast meats, and the traiteurs anything but ragouts or stews, and their business was consequently confined chiefly to selling roast and stewed meats to be carried away by their customers.

The word "restaurant" originally signified only "strengthening," or "restorative," and it is still employed in that sense also in France—just as a "restaurateur" may be either a "restorer" of paintings, or the keeper of a "restaurant." It first attained culinary significance in the 16th century, being applied then to a nourishing beverage, introduced by a Dr. Palissy, prepared from meat and poultry, minced fine, mixed with barley water, spices, etc., and carefully strained. Later, it was applied to various other "strengthening" or "restorative" foods, especially to gravy soups, bouillons and similar preparations.

The first public eating-place which resembled the modern "restaurant" and was so designated, was that opened by a M. Boulanger, in Paris in 1765. Boulanger equipped the interior with a number of little marble-top tables similar to those found in many modern cafés and there he served his customers with bouillon, *poulet au gros sel* (plain boiled chicken sprinkled with coarse salt), and eggs. He met with success from the start and soon added roast meats, stews and various other dishes. His example was speedily copied, and the century and a half since the establishment of his initial venture has seen a steady increase in the number of restaurants in every part of the civilized world.

RHINE WINES, Rhine and Moselle Wines. German wines are in this country commonly known as "Rhine Wines" or "Rhine and Moselle wines," the reason being easily found in the fact that a majority of the most famous varieties come from the vineyards in the vicinity of the Rhine and its tributaries, the longest of which is the Moselle. They are also frequently styled *Hocks*, following an English custom which had its origin in the initial popularity in Great Britain of German wines under the general or specific title of Hochheimer; and *Rieslings*, because many of the finest types are made chiefly from the Riesling grape—a small, round, yellow-green berry, with soft skin and tender, sweet, aromatic flesh. That the best vintages are generally acknowledged as the choicest of all white wines is due to the great care exercised in the cultivation of the vines, the selection of the grapes and the treatment and maturing of the fermented product, for the Rhine valley offers no great natural advantages for viticulture. For the finer wines, the gathering is generally deferred until the late autumn to allow the grapes to ripen to the fullest point—or a little beyond—and the "ripely rotten" berries are sorted out for use in the choicest varieties, the *Auslese* or *Auslese Beeren*—"selected berries."

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Terraced vine-clad hills along the Rhine

The most noted producing district is the *Rheingau*, a stretch five miles wide and about twelve miles long, on the right bank, between Rudesheim and Biebrich. Next in trade importance are the districts of *Rhein-Hessen*, on the left bank, opposite the Rheingau; *Moselle*, *Palatinate* and *Franconia*. The output covers a wide range of

quality, character and strength. The most celebrated wines are "white" and "still," but there are numerous sparkling types of high reputation and some red wines of international fame. There is a steadily increasing consumption of white varieties of moderate price prepared in "champagne" or "sparkling" style.

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Gathering Grapes, Rudesheim, Germany

Among the best red wines are *Assmannshauser,* from the Rheingau; *Affenthaler,* from the Baden district; *Ingelheimer* and *Ober-Ingelhauser,* from the Rheingau; *Affenthaler,* from and *Walporzheimer,* from the Ahr Valley. They are generally of light claret color, sometimes approaching Burgundy style.

Though matured German wines of good vintages are among the most desirable of the products of the grape, the new or "raw" wine of the many minor, less carefully managed vineyards is generally most disappointing to the American consumer, and it is advisable to confine purchases to firms of known reliability, as a great deal of deception is practiced by unscrupulous manufacturers and dealers.

Rheingau Wines. Johannisberger is probably entitled to first place among the many elegant Rheingau wines. Some vintages, such as that of Schloss Johannisberger Cabinet 1893, are extremely expensive. The finest are those known as *Schloss* Johannisberger. The cheaper grades are called *Dorf.*

Other excellent varieties are: *Steinberger,* from vineyards near Wiesbaden, the most famous being "Steinberger Cabinet"; *Lanbenheimer, Marcobrunner, Rudesheimer, Geisenheimer, Hochheimer, Hattenheimer, Rauenthaler, Bodenheimer,* etc. Hochheimer is produced in a district bordering on the Main, some miles above its junction with the Rhine, but it is usually classed with the Rheingau products.

Mention is here made only of wines which are generally exported. Some are unobtainable commercially, being reserved for private consumption and held at practically prohibitive figures. As an example may be mentioned the Hattenheimer Mannberg Beeren Auslese, 1893, usually unobtainable but of which private sales have occasionally been made at the rate of $10.00 to $20.00 a bottle. Such wines represent the carefully matured product of hand-assorted grapes of good years of selected vines, grown in vineyards of favored locations.

White Rhine Wines improve with age, some private vintages being a hundred, or more, years old. They are, however, usually recorked every ten years, as otherwise the cork is liable to rot and spoil the wine.

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Rhenish girls carrying grapes

Rhein-Hessen. The most noteworthy of the wines from the province of "Rhenish Hesse," are the soft, pleasing varieties of which *Niersteiner, Oppenheimer, Liebfraumilch, Binger* and *Scharlachberger* are representative examples.

Palatinate Wines. The Palatinate, the largest wine district, includes the territory which under that name was a separate state of the old German Empire, but has since been absorbed by Bavaria and adjacent states. It produces a number of light agreeable wines, including some of high quality which equal many of the finer Rheingau. Among the best known are *Deidesheimer, Ruppertsberger, Forster* and *Koenigsbacher.*

Moselle Wines have, in most cases, less body and sweetness than Rhine Wines, but the best types offer fine flavor and are very popular. With a few exceptions, they are of a pale amber or yellow tint, and are generally drunk younger than Rhine Wines, being at their best when seven or eight years old. Among varieties of excellent character are *Zeltinger, Piesporter, Graacher, Erdener, Berncasteler, Moselbluemchen* and *Trabener.*

The wines of the Saar and Ruwer valleys are usually classed with Moselles, as they are closely allied in characteristics. *Ockfen, Feilsen, Scharzberg* and *Wiltengen* belong to the Saar Valley. *Maximim-Grünhaus* and *Caseler* are Ruwer wines.

Franconian (Bavarian) wines are full-bodied and rather heavy. They resemble Rhine Wines in flavor and color. The most noted are *Leistenwein* and *Steinwein,* exported in flacon-shaped bottles known as Bocksbeutels. Steinwein is also known as *Heiligengeistwein,* "Holy Ghost" wine, after the vineyards belonging to the Hospital of the Holy Ghost at Wurzburg.

RHUBARB: a plant grown exclusively for its stalks, which serve as an excellent "fruit" for use as sauce, in pies, etc. A pleasing wine can also be prepared from them. The first supplies of many cities are obtained by forcing in cold frames and greenhouses. The earliest reaches the New York market in December, coming principally from Quebec and Montreal, where it is raised in large cellars.

If the stalks are dried in the sun, they may be kept a long time, and, when soaked over-night, are almost as good as the fresh product.

It is an interesting fact that it is only in English-speaking countries that the rhubarb has attained general favor.

Turkish Rhubarb, sold by druggists and used extensively as a medicine, is a root grown chiefly in China and Chinese Tartary. Its name is from its introduction via Turkey.

RICE (*see Color Page opposite*) : is the most extensively cultivated of grains and supplies the principal food of nearly half of the entire population of the world. It grows most freely on lowlands, especially on lands that can be flooded, but by irrigation it can be raised anywhere—in Japan, satisfactory crops are obtained even on the terraces of hills and mountainsides by periodic flooding from reser-

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Preparing the ground for rice, near Luzon, P. I.
—note that the bullock is up to the knees in mud

BARLEY BUCKWHEAT RICE

voirs above. It was first introduced into this country in 1694 from Madagascar by Captain Smith, who presented a bag of "paddy" or rough rice to a Charleston merchant, and from that start has developed a crop which now amounts annually to many millions of dollars.

The fact that rice has not, in the past, occupied the position in the American dietary to which it seems entitled, is attributed to the fact that, until recently, reliance was placed to a great extent on importations. To-day, however, the United States is fast developing into one of the world's great rice-growing countries—improved machinery, greater fertility of soil and the elimination of the expense of ocean transportation tending to offset the cheaper labor of Eastern countries. Texas, Louisiana and Arkansas are the chief producing states.

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Rice planters at work, Japan

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Japanese girls at work in the rice fields

There is every reason why rice should be an every-day article of diet in American homes—even more so than potatoes, for it is more nutritious, very easily digested and, when properly cooked, very palatable. Polished rice contains an average of nearly 88% of nutrients—a little more than wheat. The components include 8% protein, 79% carbohydrates and a small amount of fat. Unpolished rice includes 7% of fat, or six times as much as wheat (see FOOD VALUES). In countries where it is the principal article of food, the nitrogenous material (the protein) required to complete the human diet is supplied by the use generally of beans, peas, etc., and frequently also of fish and other kinds of flesh.

Rice is graded by size and condition—the latter according to the greater or less damage in hulling and cleaning. The chief commercial classifications are, in a descending scale of quality, "fancy head rice," choice, prime, good, fair, ordinary, common, inferior and screenings.

Patna rice, of small, slender, well-rounded pearl-white grains, is the most esteemed of Eastern products. Other important types are the *Japan, Java, Siam, Basscin* and *Rangoon*. The bulk of imported whole rice comes from Japan, with China next, but a long distance behind.

The Japan, Carolina and Honduras rices are the best known of American growth. *Carolina* is large, sweet and of good color. *Japan-*

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Baling Rice in the fields, Japan

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Harvesting Rice under Palm-Leaf Sun Shades, Luzon, P. I.

style, which also ranks very high, is a thicker-bodied, soft-grained variety. *Honduras*-style is a more slender grain.

The preparation of rice for the market involves (1) thrashing, which gives "paddy" or rough rice, (2) milling, or hulling, to remove the husks, and (3) polishing, to produce the pearly gloss considered so desirable.

The polishing process, though improving its appearance, is a blunder from the standpoint of food values, as it robs it of nearly all its fatty properties—lessening its nutritive qualities and depriving it of the richer taste which makes the rice served in oriental countries seem so much superior to the same grain eaten here. Better acquaintance with high grade *unpolished* rice would result in wider appreciation of the grain. It requires, however, greater care in storing and handling, as it is more subject to the depredations of weevils.

Large quantities of rice flour, rice meal, etc., are also imported for both commercial and edible purposes from Europe, occasionally to twice the quantity of imported whole rice. Germany, England and Holland are the principal sources. In purchasing *ground rice*, avoid the dead, chalky-white kind—the brighter, less white product is superior.

Pounding and cleaning rice, Japan

Grocers in the South need no advice on the rice question, for they sell a lot of it—even moderate-sized stores carry large stocks of various grades and feature it just as any other leading article—but it will pay grocers in the North to give much more attention to it than they have in the past. It is easily carried and can be made to pay good profit.

Rice should never be stored in a damp place—nor the bags on a stone floor—as either procedure will cause it to deteriorate in appearance. That sold in packages or cotton "pockets" or bags is, for sanitary reasons, generally preferable to the product sold in bulk.

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Threshing Rice, Luzon, P. I.

The housewife who will direct part of her attention to the many possibilities in cooking rice, will be rewarded by an improvement of her table at a decreased expense. There is practically no limit to the ways in which it can be used—separately or with other articles.

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Hulling Rice, Philippines

In boiling rice, see that the water is boiling hard before the rice is added; then, as the addition of the rice will stop the boiling, stir until the boiling point is again reached. After that, do not stir at all but see that the fire keeps the water boiling and add boiling water if too much evaporates. The action of the boiling water will prevent the rice from burning, but it will not break the grains as stirring does. The result of the observance of these simple directions will be rice that is thoroughly cooked yet which has every grain clean and separate.

Puffed Rice: is made by putting the grain into sealed "guns" which are revolved for sixty minutes in a heat of 550° Fahr. The heat turns the moisture in the grain to steam, and when the "gun" is suddenly unsealed, the steam contained in each individual grain "explodes," pulverizing the starch granules and "puffing" it to several times its original size.

RICE PAPER: is not made from rice but from the white pith of a small tree native to Formosa, of the same genus as our Sarsaparilla and Spikenard.

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A Rice raft, South Carolina

RIESLING: a general name for white wine from the Riesling grape. The most noted are the German types (see RHINE AND MOSELLE WINES), but Austria and other countries also produce it in considerable quantities, and domestic Riesling of excellent character is made in California.

RIVESALTES WINES: a general title, from the name of the city of Rivesaltes, for the output of the Pyrenées-Orientales department of Southern France. They are similar in character, and in some cases identical in title, with the Spanish wines produced on the other side of the Pyrenees. The types best known in this country are the liqueur, or dessert, wines, the choicer grades being highly esteemed. The principal varieties are Muscat, Maccabeo, Malvoisie and Rancio.

Muscat is made from very sweet grapes which have been ripened almost to the raisin point, either on the vines or by exposure after cutting. During the first twelve months it has the appearance of syrup rather than wine, but the second and third years produce a delightful bouquet and flavor. It should be consumed before the tenth year, as after that time it generally loses much of its characteristic perfume.

Maccabeo, *Malvoisie* (Malmsey) and *Rancio* are sweet wines of port style.

ROCAMBOLE, or *"Sand Leek"*: a kind of GARLIC (which see).

ROCK CANDY, or **Sugar Candy:** a pure sugar product made by pouring sugar, cooked to 40° Beaume, into deep pans that have previously been laced with heavy thread on which the crystals deposit while being formed.

ROCKET: a rather coarse garden-plant whose young leaves are occasionally used as a pot-herb or for salads. The flowers resemble orange blossoms in odor.

ROE: the eggs of fish, those chiefly used being from the sturgeon, shad, cod, carp and mullet. The salted roe of the sturgeon is known as *Caviar* (which see).

ROGNONS de Coq: an euphemistic name for fowls' testicles, sold in bottles in fancy grocery stores, both separate and mixed with *Crêtes de Coq* (cockscombs).

ROLLED OATS: the most popular form of OATMEAL (which see).

ROLLED WHEAT: the grain milled like *Rolled Oats*.

ROLLS: a variety of fancy bread, generally in the form of small, pointed-oval, round or semi-cylindrical cakes, intended to be eaten hot for breakfast, etc. French rolls, Vienna rolls and "Milk rolls" are made from dough mixed with milk and water.

ROMAINE, Cos Lettuce, Leaf Lettuce: one of the three principal divisions of the Lettuce family and a popular summer salad-plant. It is distinguished by its long straight upright leaves, generally inclined to spoon-shape and with thick crisp midribs. The inner leaves are usually blanched by tying the plant together during growth.

Romaine

ROOT BEER: a refreshing beverage made by the fermentation of an infusion of roots, barks and herbs, such as sarsaparilla, spikenard, wintergreen, ginger, etc., with sugar and yeast. The flavoring or "extract," which dealers find very salable, is retailed in convenient packages, each sufficient for about five gallons of "beer." The effervescence is caused by the fermentative action of the yeast on the sugar. Many retailers brew and bottle the beer themselves.

ROPE: a general name for all kinds of cordage formed by twisting together vegetable or animal fibres or metallic wires. That of ordinary commercial use is made of vegetable fibres. The title "rope" is correctly applied only to cordage which is more than an inch in circumference, smaller kinds being preferably designated as lines, cords, twines, etc.

The fibre is obtained from a great variety of plants and "grasses." Among the most important are Hemp proper or Cultivated Hemp, Manila Hemp, Sisal, Flax, Jute and Cotton. Hemp is used for all sizes of cordage, Flax only for small lines and cords, and Cotton for thin twine. See FLAX, HEMP and JUTE.

In manufacture, the fibres are first twisted together to form a "thread" or "yarn." The yarns are then combined by twisting them into a "strand," and three strands combined in like manner form "rope." All the work in a modern plant is done by machinery, numerous special processes, twists, etc., being required for cordage for special industries and purposes.

The list following gives the approximate weight and strength of cordage of the sizes named:

	Diameter (in inches)	Weight of 100 fathoms* (in pounds)	Weight of 100 fathoms, tarred (in pounds)	Strength of new ropes (in pounds)	Number of feet in 4 pounds (feet)(inches)
6 Thread	¼	14	17	450	43.
9 "	5/16	20	24	750	33.
12 "	⅜	28	34	900	21.
15 "	7/16	34	41	1,250	17.
18 "	½	45	56	1,700	13.
Circumference In inches					
1¾	9/16	61	78	2,500	10.
2	5/8	80	100	3,000	7.
2¼	¾	101	126	3,900	6.
2½	13/16	125	156	4,700	5.
2¾	7/8	151	189	5,600	4.
3	1	180	225	6,750	3.4
3¼	1 1/16	211	264	7,850	2.9
3½	1⅛	245	306	9,150	2.4
3¾	1¼	281	351	10,600	2.1
4	1 5/16	325	400	11,950	1.10
4¼	1⅜	361	451	13,450	1.7
4½	1½	405	506	15,150	1.5
4¾	1 9/16	451	564	16,800	1.4
5	1⅝	500	625	18,700	1.2
5½	1¾	605	756	22,600	1.
6	2	720	900	26,900	.10
6½	2¼	845	1,056	31,500	.8½
7	2⅜	885	1,125	36,600	.7½
7½	2½	1,125	1,406	42,000	.6¼
8	2⅝	1,280	1,600	47,800	.5½
8½	2⅞	1,445	1,806	54,000	.5
9	3	1,620	2,025	60,500	.4½

*A fathom equals six feet.

Although of an antiquity reaching back toward the earliest ages of man—the art of twisting animal hair, tough grass and vegetable fibres having apparently existed

among the rudest people—it is only within the last two centuries that rope-making has received the successful attention of mechanical inventors. The primitive wheel, the workman with a bundle of hemp strung around his waist and the slow, laborious operation of laying and twisting the strands by manual labor may still be seen in remote places.

ROQUEFORT: a famous cheese made from ewe's milk. See CHEESE.

ROSE EXTRACT: is a solution containing attar, or essential oil, of roses (see PERFUMERY). By U. S. Standards, it should contain not less than 4%.

ROSE-LEAF JAM, or *Candied Rose Leaves*: consists of rose leaves or petals heavily sugared. The product has generally the consistence of semi-candied honey.

ROSELLE: a kind of sorrel, whose large, red, fleshy calyces (the parts surrounding the seed-pods) make an excellent jelly, resembling cranberry both in flavor and appearance. It is cultivated to a considerable extent in Australia and has recently been introduced here. The calyces to the right of the illustration (one-third or one-fourth average size) are shown as prepared for cooking by the removal of the seed pods.

ROSELLE—and Calyces prepared for cooking

ROSEMARY: a plant or shrub of the mint family, native to the South of Europe and Asia Minor, now widely cultivated. Its leaves, greyish in color and curled at the edges, are very fragrant and slightly stimulant. They are employed for seasoning and in the manufacture of liqueurs and preserves.

ROSOLIO: an Italian liqueur flavored with orange blossoms, roses and numerous spices. Also a term applied to choice types of some other liqueurs and the name of a red Malta wine.

ROTTEN STONE: is a soft powdery stone found in New York State. It is used for cleaning knives, polishing metals, etc.

ROYAN: a local French name for the SARDINE (which see). Also a trade term for a packing of (1) especially small sardines and (2) small fillets of mackerel.

RUE: a plant whose bitter, pungent leaves are sometimes used for seasoning, chiefly in the South. Their odor is objectionable to many people, but they were formerly very popular as a seasoning.

RUFFED GROUSE: one of the most important members of the Grouse family—known generally as the *American Partridge*. See GROUSE.

RUM: a spirit made by fermenting and distilling the juice of the sugar-cane or the sweet residue that accrues in making sugar—the skimmings from the sugar-pan, the spent water from the stills, molasses, etc. When first distilled it looks like water, but

it is usually colored with burnt sugar (caramel). Its quality is greatly improved by age, and as much as sixteen dollars has been paid for a pint bottle of fine old stock.

Rum is produced in all sugar-producing countries and also to a considerable extent in the United States and England, but that from Jamaica, Cuba, Santa Cruz (St. Croix) and Porto Rico is generally considered the choicest. Its flavor depends mainly upon the soil and climate, and is not good when canes grow rankly. Its strong odor and frequent adulteration for a long time checked its consumption in this country, but of late more attention has been given to importing and advertising high-class brands, with the result that there has been an increase in demand.

The term "pineapple rum" is derived from a custom in the West Indies of putting sliced pineapples in some of the casks to flavor the spirit. Guavas are also occasionally added with a similar object.

In the United States the rum industry is almost exclusively confined to New England—and has been so for generations, New England rum having been well known as far back as 1687. It is of somewhat curious interest that during the year 1687 it sold for 1 shilling 6 pence a gallon, which is practically to-day's wholesale price for new rum (exclusive of the internal revenue tax).

It is also worthy of note that the merit of the finer grades of New England rum is better appreciated in other countries than in the United States. In spite of the competition of that manufactured in many other parts of the world, New England rum averages about two-thirds of the entire exportation from the United States of all kinds of distilled spirits. On the other hand, though in the past thirty years there has been an increase of more than 125% in the total production of distilled spirits in the United States, there has been practically no increase in the production of rum.

The largest distilleries now in operation are located within the Boston metropolitan district, and one of them has a capacity of more than a million and a half gallons a year.

A large percentage of the molasses from which New England rum is made is brought here in tank steamers from Cuba, Porto Rico and others of the West Indies.

Rum Shrub. See SHRUB.

RUSK: a title applied to various styles of light biscuits, small light cakes and small shapes of slightly sweetened, twice-baked bread. Also, dried bread or plain cake, browned in the oven and crushed or pounded into crumbs, to be eaten with milk, etc.

RUSSET: a reddish-brown apple, ripening in the fall. See APPLES.

RUST: consumes faster than labor wears. All goods which are exposed to its attacks should be kept dry and perfectly clean, whether for sale or not. Oil, being a preventive, should be frequently used where suitable. Articles already rusted can be cleaned with emery and oil—if badly coated, they should be soaked in oil for several days before attempting to polish them.

RUTA-BAGA: a common name for yellow-fleshed SWEDISH TURNIPS (which see).

RYE (*see Color Page opposite* 676): a species of grain much resembling wheat. It is very hardy and will grow in a soil too poor for the majority of other food grains. It thrives best, and is most productive, under conditions favorable to wheat. There

are few clearly defined varieties, the principal division being into "winter" and "spring" rye. Of all the grains brought directly under cultivation it has been the least altered, the present product resembling closely the wild stock.

Rye furnishes an excellent malt for the distillation of spirit. It is much used in Europe in the making of gin, and in this country in the manufacture of whisky. The Russian rye crop exceeds in quantity even the large figures of American wheat.

Rye Flour is consumed in increasing quantities in the United States, chiefly by the foreign-born population, but also to a growing extent among other classes.

Rye Bread. See sub-head in general article on BREAD.

SACCHARIMETER: a form of POLARISCOPE (which see) used in classifying sugar.

SACCHARIN: a coal-tar product which is several hundred times sweeter than sugar. It is not considered wholesome for general consumption, as it does not assimilate with other foods, passing through the system unchanged, and its use is closely restricted in Germany and in some sections of the United States. It is often employed by the medical profession to disguise the unpleasant taste of some prescriptions.

SACK: a bag of the kind ordinarily used for potatoes, etc., generally large in size and of coarse, heavy material. The term is said to be common to all the languages of Europe, and even to some of the Asiatic tongues.

SACK—Wine: a title derived from the Italian *Secco* (dry), first applied to wines of Madeira style produced in the Canary Islands, but extended during the 17th century to all strong white Southern wines, distinguishing them as a class both from Rhenish and red wines. It was for a time employed specifically to designate sherry. Its use is now generally confined to a light-colored dry Spanish wine.

SAFFLOWER SEED OIL: the product of a thistle-like herb, one to two feet in height, with orange-red head, grown in the United States, Southern Europe, Egypt, India and China. Commercially, it is employed as a dye, frequently as a substitute for SAFFRON (see following). In India, it is used as an illuminating and culinary oil.

SAFFRON. Genuine saffron is a coloring material obtained from the dried flower-pistils of a species of crocus, but that chiefly marketed is adulterated with turmeric or is made from safflower seed. The imitation is decidedly inferior but is cheaper and more plentiful.

Saffron was formerly employed medicinally but is now principally used in perfumes and for coloring confectionery, etc. Its agreeable flavor, good color and absence of anything injurious, make it an important article.

SAGE: a shrub whose tops and wrinkled whitish-green leaves are extensively used, both fresh and dried, for flavoring soups, sauces, dressing, etc., because of its characteristic aromatic, bitter and slightly astringent flavor. Dried sage is retailed in packages, cans and bottles.

Sage grows wild in many parts of Southern Europe and has been long under cultivation in all temperate climates.

Sage

SAGE CHEESE. See sub-head in general article on CHEESE.

SAGO: is the starch found in large quantities in the trunks of several varieties of tropical palms, from six hundred to eight hundred pounds being not infrequently obtained from a single tree. The palm is cut down just after it reaches maturity—when from ten to fifteen years old, according to the climate and other circumstances—and the pith is put through crushing and washing processes; the sago thus freed being then dried by evaporation, passed through colanders and rubbed or granulated into the little pellets familiar to commerce.

Sago is valuable as a food item, being both cheap and nutritious. It is especially pleasing prepared in the same way as rice pudding.

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The heart of a Sago Palm

SAKI: Japanese rice spirit. See ARRACK.

SAL SODA: a commercial name for carbonate of soda. See SODA (*Washing*).

SALADS: were formerly confined to a few raw green herbs, but to-day they cover a wide range, practically all kinds of food being so served. They deserve much wider recognition than is popularly accorded them, for, properly made, they offer a variety of food combinations that are particularly wholesome and very appetizing—especially during hot weather.

For their enjoyment, the best materials are, however, absolutely necessary. If a grocer desires to make free sales of olive and similar oils, mustard and vinegar, he must keep choice grades of these articles during the salad season! If rancid butter were as common a commodity as rancid oil, most people would put up with dry bread in preference to using it.

Lettuce is generally accorded the first place as a salad plant, but among the numerous other possibilities offered to us by nature and horticulturists are many which excel it in flavor and adaptability.

Prominent among a great diversity suitable for use separately, or in innumerable combinations, are *raw items* such as endive, chicory, cresses of all kinds, tomatoes, celery, cucumbers, fine-chopped mint, minced young onion tops, capers, parsley, dandelion, nasturtiums and nearly all kinds of fruits, and *cooked items* such as artichokes, asparagus, sliced beetroot, carrots, celeriac, oyster plant, sea kale, chicken, veal, salmon, shrimps, etc.

It is not necessary to confine oneself to any special plant or other food or any set formula—almost any young crisp leaves of herbs or vegetables, aromatic or otherwise, can be made into a tasty salad if properly mixed with oil and vinegar and seasoned with salt and pepper—and the addition of a little fruit or left-over cooked vegetables or meat, cut in small pieces, will render it worthy of anyone's appetite!

Meats, such as lobster, crab, chicken, etc., should be picked or cut into pieces about the size of small dice. They should never be minced.

SALAD DRESSING. See article on SAUCES.

SALAD OIL: a general title for any edible oil used for salad dressing. Cold-drawn olive, peanut, cottonseed, corn, walnut and many other vegetable oils, are suitable for the purpose, either separately or blended, if of good quality, properly refined and in sweet, fresh condition.

SALAMI: a famous Italian and Hungarian sausage. See SAUSAGES.

SALEP: a starchy meal obtained from an Asiatic herb root. Before grinding, it is generally seen in the form of small, oval pieces of a rather dirty, whitish-yellow color, tough in texture and with a slightly salt, gummy taste. When pulverized and mixed with boiling milk, it swells to a semi-transparent pudding jelly, which is considered an excellent food for children and convalescents. In diluted form, it was formerly sold from salep-stalls as an early morning beverage for London workmen. The "salep-stalls," however, long ago made way for "Coffee Stalls."

SALERATUS: the monopotamic or monosodic carbonate. The potassium salt was formerly used in baking, but it has been generally displaced by bi-carbonate of sodium, which is preferable as a culinary ingredient and more easily assimilated by the system. See also article on SODA.

SALMAGUNDI: a mixture of chopped meat, fish (such as anchovies), onions and various other articles, dressed with oil, vinegar, pepper, etc. The word is also used in other senses to indicate a medley or miscellany.

SALMI: a stew in which any kind of game, or domestic duck or gosling, is the principal ingredient. Its preparation generally includes the use of mushrooms, truffles, etc.

SALMON. The two principal families of salmon are the *Salmo Salar* of the North Atlantic (*see Color Page opposite* 540), ranging on the American side upwards from New York and generally known as the Kennebec Salmon, and the *Oncorhynchus,* which includes the chief Pacific Coast varieties. The Kennebec Salmon is sold in the Eastern markets from the middle of April to the end of September, but the total crop is limited in amount—the bulk of the fresh salmon supply, and all the canned salmon product, is of the Pacific Coast fish.

The annual harvest does not compare in quantity with that of the herring, mackerel and cod tribe, nor in value with that of smaller fancy fish such as the sardine, but it occupies an important position financially and the richness and fine color of the

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Fish Wheels, Columbia River, Oregon

salmon flesh have always held it high in popular estimation. Canned salmon, the form which is best known to the general public, leads all other American canned products in the total marketed.

The life story of the Pacific salmon is of dramatic interest, containing all the elements of romance—from its first fight for existence against almost overwhelming odds, to its magnificent struggle to perpetuate its race at the expense of its own existence.

The fish is an anadrom, living all but the beginning and end of its existence in the depths of the ocean. During his sojourn in the salt waters of the sea, we must presume he enjoys life, even though in a somewhat strenuous fashion. He is often found mutilated, probably from combats with his kind and other denizens of the deep, but he evidently finds feeding good and life generally worth while, for by the time he is four years old he has developed into a magnificent fish weighing from thirty to even a hundred pounds, and as handsome a creature as the water ever produced. The tragedy of his life comes when nature calls him to the spawning grounds, for that journey is one of the world's most remarkable examples of the instinct of procreation.

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Tons of Salmon on their way to the cannery

Every springtide the mature salmon—both male and female—begin in great "schools" the return journey. The date and distance of the runs and the rate of progress, are regulated by the condition of the spawn. The earliest occur in February and March. The fish then travel to the headwaters of the rivers, many hundreds of miles up; in the later runs, nearer spawning grounds are chosen. The run of some species continues until fall.

No natural obstacle can stop the pilgrims—they leap obstructing boulders and charge the rapids with indomitable energy, renewing and redoubling their efforts if repulsed until they have won their progress onward, or die in the struggle. They take no food after entering fresh water.

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Salmon Fishing on the Columbia River —dragging in the nets

When they finally reach the spawning grounds—weak from fasting and fatigue and often wounded by the rocks and other obstacles encountered—they rest for two or three weeks. Then each female fish scoops a hole in the gravel in the shallow water and deposits her eggs there. The male fertilizes them, and then they are left to their fate—the fish have completed the duty to nature which they undertook when they left their ocean homes. And then? By this time the fish have lost the strength and beauty which distinguished them when they started on their journey—their glistening scales have disappeared, their flesh is flabby and dull, their skin disfigured with blotches. They linger around for a while and then they die—the last stage of the life of the great salmon is closed.

What of the spawn provided for at such sacrifice? The "fry"—tiny little creatures of queer aspect—emerge from the eggs in from 100 to 200 days after fertilization, the period depending largely upon the temperature of the water. Then in great quantities they fall prey to other fish and many birds. The female salmon contains about 3,500 eggs, otherwise the species would long ago have been extinct, so fierce is the onslaught. The "fry" which survive develop into little salmon which travel down the river again into the ocean—a long journey, slowly made, with many stops, and again with heavy toll to other enemies along the route—thence into the ocean, there to live and fight and grow until, in their turn, as they reach maturity, they make the final up-river journey.

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Dam and Fish Ladder on Rogue River, Alaska

Nature had provided for all these enemies by the great fecundity of the female salmon, but when to them was added the catching by human beings, year after year,

(1) Salmon
(2) Brook Trout
(3) Weakfish
(4) Shad

FISH

of tens of thousands of mature salmon before they had spawned, she was unable to cope with the situation, and a few years ago it seemed certain that before long the salmon would become as nearly extinct as the buffalo. That danger has, fortunately, been removed by restrictions on the catch and artificial hatchings of great quantities of the eggs to guard against their destruction by predatory fishes and birds (see article on FISH CULTURE). Another important and very interesting government work has been the construction of "Fish Ladders" to assist the fish in climbing the falls or dams which obstruct their up-river journey. A Fish Ladder is a series of very broad steps built up the side of a fall or dam. The salmon travel up them at their ease, as the height of each step is only a few inches, and the protection of the step ahead slacks the rapidity of the current and gives them many rests in the ascent. Before these ladders were constructed, the fish were compelled to climb the falls at one dash, and thousands upon thousands of them were thrown back killed or maimed.

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Taking Salmon from the Trap, Columbia River Oregon

Canned Salmon. The fish for canning purposes are caught in gill nets, seines or traps. The principal sources in the order of the average annual output are (1) Alaska, now supplying about two-thirds of the total, (2) British Columbia, (3) Puget Sound and (4) Columbia River. About half of the "pack" is consumed in the United States and three-fourths of the remainder in the United Kingdom, Canada and Australia.

The fish, as caught, are with the least possible loss of time carried to the canneries in steamers, boats, etc., and immediately started through the various processes. Nearly all the work is performed by machinery. First comes a preliminary external washing, trimming and dressing, then they go to cutting machines where adjustable revolving circular knives cut them into pieces of any desired size for "tall," "flat" and "half-flat" cans, etc. Flat and oval cans of pound and half-pound size are filled by hand, tall cans by machinery. Then follow a general inspection, weighing, topping, testing, cooking and sterilizing, etc.

A "case" contains 48 one-pound or 96 half-pound cans.

The principal recognized varieties of American canned salmon are the five grades following —the first being the choicest and the fifth the lowest in quality. The "scientific" name of each grade is given, because the popular titles vary in different localities. The "Sockeye" salmon of Puget Sound, for example, corresponds very closely to the "Red" salmon of Alaska, and the "Tyee" or "Red Spring" of Puget Sound, to the

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Butchering Salmon

"Chinook" or "Royal Chinook" of the Columbia River and the "King" of Alaska.

(1) *Oncorhynchus nerka*: known as the sockeye or sockey salmon (British Columbia and Puget Sound), blue-back salmon (Columbia River), red salmon or redfish (Alaska) and nerka salmon—fish ranging from five to eleven pounds. The flesh should be blood-red in color and closely knitted, and the oil heavy and red.

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A Salmon-Canning Establishment

(2) *Oncorhynchus tschawytscha*: known as the chinook salmon (Columbia River and outside rivers), king salmon (Alaska), quinnat salmon (outside rivers), tyee salmon (Puget Sound) and spring salmon (British Columbia)—very large fish, from thirty pounds up. The flesh should be deep pink in color—a cross between red and pink, in large flakes and with rich oil.

(3) *Oncorhynchus kitsutch*: known as the coho or cohoe salmon (Alaska, British Columbia and Puget Sound), silver salmon or silver-sides (Columbia River and outside rivers) and Medium Red (Alaska)—fish averaging a little larger than Class 1. The flesh is firm and varying in color from pale to deep pink, with oil fairly plentiful but generally of little color.

(4) *Oncorhynchus gorbuscha*: known as the humpback salmon (British Columbia and Puget Sound), pink salmon (Alaska) and gorbuscha salmon—very small, averaging about four pounds. The flesh is of sweet flavor, but soft and of pale pink color.

(5) *Oncorhynchus keta*: known as the calico salmon, keta salmon, dog salmon, and chum salmon—averaging about eleven pounds. The flesh is white and the liquid contains very little oil.

The fifth grade is the cheapest generally packed. Although it does not possess the fine appearance or richness of the higher varieties, it is frequently of very fair flavor. Caution must, however, be exercised in buying as, on account of its low price, some packers are careless in putting it up.

The greater part of the Alaska pack is of the "Red Salmon"; of British Columbia and Puget Sound, the "Sockeye," and of the Columbia River, the "Chinook."

There are several other varieties of salmon—among them the *Salmo-gairdneri* (or steelhead, hardhead, winter-salmon, salmon-trout or square-tailed trout), and two landlocked species in some New England and Canadian lakes, which are consumed as fresh fish but they are seldom, if ever, canned.

SALOOP: a tea made of sassafras chips or aromatic herbs, drunk with milk and sugar. It was formerly considered a valuable remedy for many ailments and was sold in London in the same manner as "salep" used to be and coffee is now.

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Shipping Department of a Salmon Cannery

SALSIFY. See article on OYSTER PLANT.

SALT. Common salt is simply chloride of sodium—a compound containing about 35 parts of chlorine and 23 of sodium. It is obtained principally in three ways—by evaporation of the brine from brine wells or springs, from salt mines and by evaporation of sea water.

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A Mountain of Salt in Spain

The greater part of the salt used in the United States today is obtained from domestic brine wells or springs. The chief producing states are New York, Michigan, Ohio and Kansas.

There is still some salt imported, but it consists almost entirely of a few fancy table varieties.

Brine wells are of two kinds—the natural brine springs (natural springs flowing through salt deposits) and the springs or wells made by man to change the salt deposits to brine, to be pumped out, instead of digging out the salt itself. The latter are the more numerous and the more important commercially. The method is more economical than mining when the deposits lie at a considerable depth below the surface of the ground.

In operation, the well is dug to the necessary depth and water is forced through pipes into the salt beds. In deep beds, the general method is to use a 3-inch pipe inside a 6-inch pipe, the 3-inch pipe going to the bottom of the salt layer and the 6-inch pipe stopping at its upper surface. The fresh water is pumped down the small pipe and dissolves the salt with which it comes in contact, being pumped back as brine through the large pipe.

The brine, in the up-to-date plant, passes through a succession of heaters, each with higher temperature, the last at about 280° Fahr. In this process, the lime, found in all brines, and other impurities are precipitated. It is next filtered and finally passes into the evaporator, where the water passes off and the salt forms. The first quick evaporation produces the fine Table Salt. The second, slower evaporation, produces the thin salt flakes known as Dairy Salt, for butter, cheese, meat curing, etc.

The product is finally dried, sifted and separated into various grades and packed in boxes, bags and barrels.

Solar Salt is produced by sun-evaporation. In manufacture from the Onondaga salines of New York State, the brine is placed in vats to which lime is added to precipitate the magnesia, and thence it flows into wooden trays, where it is slowly evaporated by the sun's rays, forming into large cubic-shaped crystals. There is always a demand for this salt at good prices for large packers.

Rock Salt is ground in crushers and sifted and refined to the numerous grades found on the market.

The water of the ocean contains on an average nearly 3% of salt by weight. The Mediterranean Sea contains a higher percentage, and the Dead Sea is famous for its still larger proportion, the water being so dense as to render it impossible for a person to sink in its depth.

Salt is the one item of food which every nation and every race demands—and has apparently always demanded. Savage races have lived without it, but wherever it has been obtainable, even at great expense and much trouble, human beings have sought and fought for it. The New York Indians obtained salt at Onondaga long before the settlers commenced its manufacture, and the Indians of the West from the vicinity of the Arkansas River.

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The great Salt-fields of Solikamsk, Asiatic Russia

There is good scientific reason for its popularity—the sodium it contains forms part of the soda which is needed in the bile to digest food, and the chlorine furnishes a necessary acid gastric fluid. It is less important where raw meat is an article of diet, as raw meat itself contains salt, but it is essential where vegetables and vegetable products constitute a considerable proportion of the food consumed.

Salt is frequently mentioned in the Bible—the expression "Ye are the salt of the earth" is familiar to all readers. Its history is indeed practically that of civilization. It was the chief commodity of the early caravans, at that time being a very valuable article, and a street in Rome was named the Salarian Way because the salt dealers dwelt there.

The first recorded legislation is probably that enacted in the early days of ancient Rome. Soon after the foundation of the city, the salt works of Ostia were established at the mouth of the Tiber, but the price demanded was so extortionately high that about a hundred years later the right of vending was transferred to the government, and private individuals were forbidden to engage in its preparation. The revenue derived was very great and contributed materially to the support of Rome.

Venice also was noted for her salt works, and to them is traced much of her maritime power.

The first American factory was that started in Virginia in 1633. Eight years later, Massachusetts gave the exclusive right to manufacture salt in that state to Samuel Winslow—though, despite this grant, works were set up all along the coast, the product being in great demand to supply the fisheries then beginning to assume considerable magnitude.

Many attempts were made to obtain salt from springs—in Pennsylvania in 1784, in New York in 1788, in Louisiana in 1791, in what is now West Virginia in 1797, and in Ohio in 1798, but the first efforts met with only small success and up to 1812 most of our domestic salt was drawn from ocean water. Since that date, conditions have been entirely revolutionized.

The Onondaga salines in New York State, situated near the towns of Syracuse, Salina and Geddes, were first worked in 1790, but were discovered as early as 1654 by French Jesuits who were prosecuting their perilous mission in the countries of the Onondagas and Iroquois. During the 19th century, they constituted an important source of supply, a total of about 430 million bushels being extracted. They belonged to the state up to 1909, manufacturers paying a royalty of one cent per bushel. The competition of other centers has rendered them commercially unprofitable for general production, but a considerable quantity of Solar Salt is still manufactured there.

California began her harvest in 1852 with sea water, and Utah in 1847 on the shores of Great Salt Lake. Kansas made its first salt from the marshes, but in 1887 a body of rock salt was found by prospectors for petroleum and extensive mines were developed. On Avery Island, La., a similar rock vein has been known and worked for more than a hundred years—the Confederates got twenty-two million pounds

of salt from it in eleven months during the war. Michigan bored her first well in 1859, at East Saginaw.

There is no danger of the race ever having to do without salt. Even if the ocean were not on every side, various parts of the world—including this continent — offer practically inexhaustible land deposits and supplies of it.

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French children gathering Salt from evaporating basins at a seaside village on the Bay of Biscay

Salt has always been the synonym for wit and piquancy, hence the term "Attic Salt." Shakespeare says: "Though we are justices and doctors and churchmen, we have some salt of our youth in us." It was formerly considered a very unlucky omen to upset the salt-cellar at the table, and to sit at the table "above the salt" was a position of honor, the old custom being to place a salt-cellar in the middle of the table, the places above which were assigned to the guests of distinction, while those "below the salt" were dependents and servants. Hence the expression of Ben Jonson, "His fashion is not to take knowledge of him that is beneath him in clothes. He never drinks below the salt."

Salt should always be kept in a cool dry place.

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Stacking Salt in the Salt-fields at Solikamsk

SALTPETRE, or *Niter*: is a Nitrate of Potassium. It is the principal ingredient in gunpowder and has various other industrial as well as medicinal uses. It is valuable in meat preserving, as the use of small quantities in the curing of hams, bacon, corned beef, sausages, etc., imparts or retains an attractive red color. The principal importations are from India, where the crude product is secured, as in other Eastern countries, by lixiviation of the earth containing it. It is also made artificially by treatment of the nitrates resulting from the mixture of animal refuse, etc., with quicklime.

SALTSTANGEN: a German cake or roll covered with poppy seeds.

SAMOVAR: a Russian urn, of copper or other metal, for serving boiling water—especially one employed in making tea. In Russia, it is generally heated by charcoal.

SAMP: hulled Indian corn, either whole or in large size—as "whole-kernel" and "half-kernel" samp. The term is also used for *Hominy* (which see), especially the larger sizes.

SAMPLES BY MAIL. Samples of general merchandise, other than those mentioned later as exceptions, packed in such a way that the contents can be easily determined and which in form and nature are not liable to destroy, deface or otherwise damage the contents of the mailbag, can be mailed at the rate of one cent for each ounce or fraction of an ounce. On seeds, cuttings, bulbs, plants, roots, etc., the rate is only one cent for each two ounces.

Fruits, vegetables or other matter liable to decomposition; poisons, explosives and inflammable articles; live or dead animals (unless stuffed); insects (except queen-bees when safely secured), reptiles and substances of bad odor, are unmailable.

Flour, sugar, etc., must be first wrapped in a bag, box or similar receptacle and then secured in another outside tube or box, without sharp corners, of hard wood or metal, with a sliding or screw top.

Liquids, excepting wines, spirits and drugs and those of inflammable or explosive character, can be mailed in quantities not exceeding four ounces if packed according to the postal regulations, obtainable at any post office, which must be followed in the most minute particular.

The limit of dry merchandise mailable, excepting single books, is four pounds.

SAND DAB: a variety of flounder. See DAB.

SAND LEEK, or *Rocambole*: a kind of GARLIC (which see).

SAND-PAPER: is made by dusting white sand, or similar material, on paper coated with hot glue.

SANDWICHES. That most useful article, the sandwich, which offers its advantages in hundreds of forms and in all grades and conditions of life—from the newsboy's lunch counter up to the most splendid "spread"—and which until the invention of the dining car was the chief, and often the only, mainstay and support of the traveler, was invented, though without premeditation, about the middle of the eighteenth century by the fourth Earl of Sandwich, an inveterate card player, who, in order that

he might not lose a minute from the game, told a servant to bring in a slice of meat between two pieces of bread, so that he could eat it without either knife, fork or plate while he continued to play. The pleasing flavor and convenience of the combination resulted in his repeating the order both for himself and his friends. The idea spread from house to house, dubbed a "sandwich" from the name of its inventor, and as such it is still enjoyed in all countries and climes.

SANDWICH MEATS: are canned or potted meats specially prepared for making sandwiches. They are generally composed of cannery trimmings of ham, tongue and other meats, minced, seasoned, etc. See POTTED MEATS.

SANGAREE: a drink composed of wine and water with sugar, lemon, etc.

SAPODILLA, *Sapota, Zapote*: the best known type of a noteworthy group of fruits of tropical America, which also includes the MAMMEE SAPOTA and the STAR APPLE, described elsewhere in this volume. The Sapodilla Tree, which furnishes the chicle converted into CHEWING GUM (which see), is of the same genus, and the main order embraces the "Miraculous Berry" of Western Africa, which takes its name from the extraordinary persistence of its sugary sweetness on the palate, and an Indian tree whose evaporated sap is esteemed as an edible jelly of raisin flavor.

Sapodillas

The Sapodilla, or "Dilly," seen quite frequently in high class stores even in Northern States, looks from the outside like a cross between a potato and a russet apple—but the soft rough-grained pulp has a delicious flavor, either raw or cooked. Average-sized fruits generally contain two large seeds, but they vary in number from one to several. In the market, they are usually graded by size and shape, as large, medium and small; round, flat and long. They stand transportation well.

The "Wild Dilly" is much smaller and more on the berry style, but is also excellent in flavor.

The WHITE SAPOTA (which see) is a fruit of an entirely different order.

SAPONIFIER. (1) Any compound used in soap-making to convert fatty acids into soap. (2) A compound used for softening water and cleansing generally.

SAP-SAGO: a Swiss cheese flavored with clover. See CHEESE.

SARATOGA CHIPS. See item under heading of POTATO CHIPS.

SARDELLE: a corruption of the German name, *Sardellen*, for ANCHOVIES.

SARDINES: are popularly supposed to be little fish that are found only on the coast of France, other products so labeled being merely imitations! This impression is not accurate, as the title—taken from the Mediterranean island of Sardinia—is by commercial usage applied to the young of divers clupeoid fish caught also in several other countries, including the United States, and exported in especially large quantities from Norway and Portugal. The high favor in which the best qualities of the real French product are held by connoisseurs, is entirely deserved—but it is not owing to exclusive possession of all the fish!

French Sardines, called also *celerans, celans, royans, cradeaux* and *galices* on various parts of the French coast, are the young of the pilchard, a fish nearly allied to the herring, common in the Mediterranean and along part of the West coast of Europe.

The fishing season varies in different sections. In the Mediterranean, it extends over the entire year. On the shores of Brittany, the center of the French industry, it is confined chiefly to the months of September and October. The fish frequent the Brittany waters throughout the entire summer—remaining until late in the fall—but when they first arrive they are thin and poor and unsuitable for canning. As the season advances they improve in quality and are fat and in good condition from September on. Those caught earlier are generally salted or consumed fresh.

To attract the little fish to the vicinity of the nets, large quantities of bait are scattered on the water—that chiefly used being the salted eggs of cod, haddock, mackerel, etc., mixed ordinarily with peanut meal or flour to decrease the expense. As many as a hundred thousand have been taken in a single net.

The French fisherman's great aim is to land the catch as speedily as possible to insure their absolute freshness—and as a consequence they are often at the canneries within one or two hours after capture. Should the failure, or unfavorable direction, of the wind threaten to delay the arrival of the sailing boats and hence impair the quality of the fish, the crew row back to port.

Drying Sardines at Camaret, France

As soon as the fish reach the factories, their heads and viscera are removed and the dressed bodies are sorted by size into large tubs of strong brine, where they remain for about an hour. They are next placed in small wicker baskets and washed in either fresh or salt water for a few seconds, to remove loose scales, dirt and undissolved salt. Then comes the drying—preferably in the open.

For open-air drying, the fish are arranged by hand, one by one, in wire baskets or trays, each holding about one hundred and fifty of medium size, placed on wooden frames or racks. The distinctive feature of the trays is their division

into about seven V-shaped crosswise compartments, in which the fish are placed in regular rows with their tails upward, so as to promote the escape of water from the abdominal cavity. They remain thus for a variable time, depending on their size, the state of the atmosphere, etc., the usual period in favorable weather being one hour.

In damp, foggy or rainy weather, they are dried indoors by artificial heat, less time being then required.

After drying, they are taken in the same wire baskets to the cooking room and immersed in boiling oil, in open vats of various sizes and construction. As much of the oil is taken up in cooking, the vats require close attention and frequent replenishing.

The oil immersion usually lasts about two minutes, but varies with the size of the fish.

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Drying Sardines on the beach, Beppu, Japan

The baskets are next removed to a table or platform with an inclined metal top, where the surplus oil is allowed to drain off, and are then taken to the packing room, where they are packed in the tin cans so well known to the consumer.

After the cans are sealed, they are immersed in boiling water for several hours, the object being to complete the cooking of the fish and soften the bones, in addition to the customary canning purpose of sterilization.

The kind and quality of oil used depend upon the commercial grade of the packing. For the finest qualities, native olive oil, from fairly good to the very best, is employed, either plain or blended with or into various sauces, except for a limited quantity prepared in melted butter for special French trade. The methods of putting up the lesser grades vary in different canneries. In some, arachide or peanut oil is used in both cooking and canning; in others, the cooking may be done in peanut oil and the cans filled with olive oil—or vice versa. It is stated that cottonseed oil is largely used in some establishments for the cheapest grades. In many cases, the flavor is enhanced by adding special ingredients to the oil or by packing in various sauces—in Tomato sauce, Bordelaise, Bouillon, etc.—cut truffles and pickles, and spices and herbs such as cloves, laurel leaves, thyme, fresh tarragon leaves, etc., being frequently added.

Some of the finer qualities are canned without bones, the extraction being usually made after semi-cooking so as to avoid tearing the flesh. Boneless sardines are further marked by the fact that they lose their tails in the operation.

In the south of France, part of the product is put up in red wine, being there known as *Sardines anchoisées* or "Anchovied Sardines."

The French sardine is a handsome little fish, and its beauty is not entirely lost in canning. In the water, the back is of a greenish color, but out of it the upper parts are rich dark-bluish, contrasting strongly with the silver and white of the sides and abdomen. The scales are very easily detached, but their loss does not detract seriously from the appearance of the fish, as the skin is thick and has a uniformly brilliant silvery color.

French sardines, as a rule, improve with age after packing, and are at their best at from four to six years in the can. Many particular establishments will not sell stock less

than a year old, as that time is considered necessary for the proper blending of the fish, oil, flavoring, etc.

American Sardines. The canning of domestic sardines, in oil, mustard, etc., is an important industry and large quantities are consumed. On the Atlantic coast the small herring is used, and on the Pacific, young fish which closely resemble the Mediterranean sardine in character and flavor. In some canneries, special machinery does much of the work performed in Europe by hand.

The fact that domestic sardines fail to obtain the high prices and favor of the French sardine is not due so much to any differences in the fish themselves, for they are in many cases equally delicate, but to the extraordinary care exercised by the leading French canneries to produce the finest possible result. Only those caught at the season when they are plumpest and best are used; they are removed from the meshes of the nets by hand, special pains being taken to avoid crowding or bruising on the boats; counted by hand into small baskets, taken direct to the factories, and immediately put through the processes described—processes in which each tiny fish has individual attention! With similar care, there seems no reason why the American sardine should not be rated just as highly as the French.

Smoked Sardines, both of American catch and imported from Norway and elsewhere, put up in oil or other manner, are gaining in favor.

The West Indies, Chile, India, Japan and New Zealand and other parts of the world, also engage to some extent in the industry, using small fish of various kinds.

SARSAPARILLA. Sarsaparilla extract is made from the long, thin, dark-brown and bitter-flavored roots of a Central and South American shrub. It is largely used medicinally as well as in the manufacture of "soft" drinks. In the beverage which bears its name, its natural bitterness is modified by the addition of Oil of Wintergreen or other flavors.

SASSAFRAS: the spicy bark of both the trunk and root, especially the latter, of a tree of the laurel family. It is employed medicinally, as "sassafras tea" and in other forms, in dye-manufacture, etc.

Sassafras leaves and twigs contain much mucilaginous matter and are used for flavoring and thickening soups (see GUMBO). They formerly served in brewing SALOOP (which see).

Sassafras

SATSUMA: a small Tangerine-type orange (see ORANGES).

SAUCES AND RELISHES: as they concern the grocer, are bottled mixtures of extracts of condiments, vegetables, fruits, etc., for use with meats, fish, soups and various other foods. They have been employed for culinary and table purposes since the time of the ancient Romans. Many of them are based on wine, but vinegar is the most common liquid component.

Commercial sauces of the *Worcestershire* kind, if of good quality, generally have Soy (which see) as their chief character ingredient. A typical formula of Worcestershire-style includes, in addition to Vinegar and Soy, a considerable percentage of lime juice, onions and tamarinds and small quantities of garlic, fish (as anchovies or

pickled herrings), red chilies and spices. The product, after cooking, is strained through fine hair sieves. *Leicester Sauce* resembles Worcestershire in general characteristics but is less pungent.

Other examples of commercial sauces are Anchovy Essence and similar types, Catsup, Chili Sauce, Tabasco, etc., listed elsewhere under their respective headings.

Professional cookery includes a great variety of sauces. The two chief fundamental types are *Espagnole,* which serves as the stock or basis for a great many brown sauces, and *Velouté,* the chief white sauce. Both of these are described in their alphabetical positions. Béarnaise, Béchamel, Hollandaise and a number of other examples, are listed in the Dictionary of *Culinary Terms* in the APPENDIX.

Salad Dressings: are ready-made preparations for dressing salads, conveniently put up in bottles. They are sometimes named according to the character of the formulas used, as Mayonnaise, etc., but are more often known by trade titles. Good brands find a ready sale.

SAUERKRAUT: a German preparation of pickled cabbage. Close heads of white cabbage are cut into fine shreds, placed in layers in a tub with salt, pepper and other spices, and allowed to ferment after considerable pressing and pounding. Strong brine is then poured over and it is packed away for use. It is eaten in various ways, generally boiled or fried with meats. Previous to cooking, it is partly freshened by washing in cold water.

When receiving barrels of kraut, put them in the cellar or some other cool place where the temperature is not above 50° Fahr. End up the barrels with the plug-end on top—never put kraut on its side. If to be held for some time, pull out the plug and fill weekly with clear water in which one handful of salt to a bucket of water has been dissolved. The great danger of loss in handling kraut is in the possibility of its being left dry—care should be taken that it is moist all the way through at all times. When the barrel is opened, take the kraut from the sides, not from the center, thus avoiding a hole, which would turn black on exposure to the air. Cover the open kraut with clean muslin or cheese cloth and continue to observe the injunction to keep it always moist. Weights are not necessary on open kraut if the above instructions are followed.

SAUMUR (Sparkling): a French wine resembling champagne in both quality and appearance, though generally a little "lighter," made in the Saumur district, in the former province of Anjou. It is very delicate and wholesome.

SAUSAGES: of the best quality, consist essentially of minced prime fresh meat, either beef or pork, or both, cured, spiced, stuffed into casings and, usually, smoked.

With few exceptions, all sausages, other than those for immediate disposal, should be kept, preferably hung, in a cool dry dark place. To be enjoyed at their best, they should, ordinarily, be sold and consumed as soon as possible after their full preparation is completed.

In general manufacture, the coarsely chopped meat is first mixed with sugar, salt and a little saltpetre and allowed to rest or "cure" for a few days. Then comes, in most varieties, a second finer mincing, next the addition of spices or herbs, or both, and finally filling into beef, sheep or hog casings and smoking—the last-named being

identical in process with that for HAM (which see) except that the time required is shorter.

Cheaper grades contain a considerable percentage of potato flour, rice, bread or cracker meal, or other similar fillers, and the meat consists largely of "trimmings"—cheek meat, etc.—coloring matter being frequently employed to obtain the red hue desired.

The casings are generally the thoroughly cleaned intestines of steers, sheep and hogs. The domestic supply is supplemented by importations from England, Australia, New Zealand, Germany, Holland and Turkey.

Some varieties of sausage are eaten as purchased, without additional cooking—often nearly raw; others are cooked for varying periods before serving. It is generally better to err on the side of over than under cooking, as there is always the danger of trichinae in pork that has not been thoroughly permeated by strong heat (see article on TRICHINAE), unless the salting is especially heavy.

As sausages, like mincemeat and other similar articles, are always open to suspicion on the part of inquiring-minded housewives, it is wisest to handle only those made by concerns with thoroughly established reputations for cleanliness and wholesomeness of preparation.

The following list of the most popular varieties names the principal ingredients, etc., of their general manufacture in high class establishments, but customs and formulas vary widely. The accompanying *Color Page* shows, in reduced size, *Bologna, Cervelat, Frankfurters, Head Cheese, Mortadelli* and *Salami.*

BEEF SAUSAGE: chiefly lean beef, seasoning, etc. Stuffed in sheep or narrow hog casings, or retailed as "Beef Sausage Meat."

BLOOD SAUSAGE or *Blood Wurst*: principally fat pork cut into small dice, together with some finely minced lean pork, beef or hog blood and spices, stuffed into beef middle casings, with three or four pieces of hog tongue added to each sausage, and boiled. The dark color is due to the blood content.

BOLOGNA SAUSAGE: named from the town of Bologna, Italy, though the imported variety now comes principally from Germany. It usually consists of equal parts of lean beef and pork, minced fine, spiced, stuffed into beef middle casings, twelve to fourteen inches long—straight or in rings—and smoked red. The best native Bologna is made of bacon, veal and pork fat, chopped fine and flavored with garlic and herbs.

BOUDIN BLANC or *White Sausage*: finely minced lean and fat pork, roasted onions, bread crumbs (soaked in cream), spices and egg yolks, stuffed into narrow hog casings. They should be kept in salt water until sold to preserve their white color. The brine must be renewed every two or three days.

BOULOGNE SAUSAGE or *Saucisse de Boulogne*: finely minced lean beef and clear salt bacon, spiced, stuffed into medium-wide beef casings about twelve to fourteen inches long, dried and smoked.

BRUSSELS "MOSAIC" SAUSAGE: a very showy item. Its basis is sausage meat of about two-thirds fat pork and one-third beef, chopped medium small, spiced and filled into hog or beef bladders, five or six inches in diameter and six or seven inches long, until about three-quarters full. Square strips of red boiled ox-tongue, coated with pork fat, and good colored Frankfurters, Liver Sausages, etc., are then pushed into the mixture, all parallel to each other. The whole is carefully strung, smoked lightly, boiled and again smoked, preferably with juniper brush added to the fire.

CERVELAT: principally equal quantities of minced beef and pork with some additional dices of fat, and spices. Filled into beef casings and smoked.

CHITTERLING: a French sausage from pig intestines. They are thoroughly cleaned, pickled for several hours in herb-flavored brine, cut into very small pieces, stuffed into larger intestines and cooked. They are then placed in brine again for three weeks or so and finally smoked or placed in vinegar.

FRANKFORT SAUSAGES or *"Frankfurters"*: if of fine quality, consist of about one-quarter lean beef and three-quarters lean pork shoulder, spiced, stuffed into sheep or narrow hog casings and well smoked. They should not be kept long, as they readily become dry and unpalatable. In Frankfort, Germany, the original place of manufacture, only pork is used, the general formula resembling that for Frankfort Pork Sausage, following.

FRANKFORT PORK SAUSAGE: coarse-chopped lean and fat pork and ham, flavored with spices, garlic and shallots, stuffed into salted hog casings, about fifteen inches long, and smoked to a reddish yellow.

FRANKFURTERS. See *Frankfort Sausages.*

FRICADELLEN: trimmings of lean pork or other meat, chopped moderately fine, mixed with flour paste, spiced, shaped into cakes of two to three ounces each, and wrapped in hog caul. They are intended for frying in butter.

GOOSE LIVER SAUSAGE: principally finely minced parboiled calf's liver and pork, roasted in butter and spiced, containing pieces of goose liver about one inch square. Filled into very wide hog casings.

Truffle and Goose Liver Sausage is made in a similar manner, with the addition of small dice of truffles and red salt tongue.

HAM, CHICKEN AND TONGUE SAUSAGE: principally pork, with the addition of varying quantities of veal, ox-tongue and chicken, all minced very fine. The casings are generally smoked or colored red.

HEAD CHEESE: boiled calf's or pig's feet, cut either into moderate-sized dice or into long thin strips, tongues (whole or cut), and a variety of other items—salted hearts, cheek meat, ham trimmings, pig's snouts or ears, etc.—all cooked, skinned and cut into pieces of about three-quarters-inch square, flavored with spices, onions and herbs. Stuffed into hog's stomachs and pressed under boards after cooking. A cut head cheese, if well made, is a good ornament for show windows.

LIVER SAUSAGE: if of good quality, consists of liver and lean pork, etc., with spices, onions and herbs.

LYONNAISE SAUSAGE: principally pork—four parts of finely minced lean and one or two parts of fat, in small dice—some finely minced beef, spices, as ginger and mace, and leeks. Stuffed into well salted beef casings, about eighteen inches long, and smoked to a rich red.

METT SAUSAGE or *Dutch Mett*: minced lean beef and moderately fat pork, filled into beef casings, dried and smoked. It is generally made from the remnants after preparing Cervelat or Salami. A finer variety is known as *Brunswick* or *Thuringian Mett.*

MORTADELLI (Italian): principally minced pork and beef, some raw and some boiled or pickled, together with dice of raw pork fat, strips of boiled pickled pig's tongue, chopped sardines and pistachio nuts, spices and a little rum or other spirits,

filled into beef casings twelve to sixteen inches long or into large narrow calf bladders, tied around with strings, dried and smoked until red—using, preferably, beech or oak shavings mixed with juniper brush.

Parisian Sausages or *Saucisses Parisiennes*: fat shoulder pork, chopped moderately fine, stuffed into medium sized hog casings, twisted into pairs about four inches long and smoked.

Pork Sausages: finely minced lean fresh pork trimmings, with spices such as nutmeg, ginger, cloves, mace, etc., and herbs as sage or thyme. For fancy trade, they are generally stuffed into sheep casings in very small links; for regular trade, small hog casings are employed. The mixture is also retailed in muslin bags as "sausage meat."

Smoked Pork Sausage is made in the same way but frequently contains a certain proportion of beef and a considerable percentage of salt pork. The links, after drying, are smoked for one and one-half to two hours.

Rollepohse or *George Sausage*: finely minced rather fat beef and bacon, spiced, filled into bags of beef caul about four inches wide and six inches long and cooked. After cooking they are packed in earthenware jars and steeped for several days in a mixture of vinegar and broth, flavored with bay leaves, sliced lemons, etc.

Salami (Italian): about two-thirds fat pork, in small dice, and one-third finely minced lean beef, moistened with red wine, flavored with garlic, shallots, cloves, etc., stuffed into beef casings, previously soaked in vinegar, and made into a chain of small, nearly round sausages. The sausages are later put in brine for several hours, then hung for about two weeks and finally washed and dipped in lukewarm mutton tallow—the last-named process to prevent drying out. Hung in proper temperature, they will keep for years.

Salami de Verona is similar to *Italian Salami,* but generally contains a larger proportion of beef, chopped to the same size as the pork, and with brandy in place of wine.

Salami (Hungarian): four-fifths moderately lean pork and one-fifth fat bacon, coarsely chopped, flavored with paprika, etc., stuffed into narrow beef casings, steeped in brine for ten days to two weeks, dried and smoked.

Sardelle Sausages: principally lean pork, together with some bacon and anchovies (Sardelles), spiced, stuffed into narrow hog or wide sheep casings and twisted off in pairs into small sausages, weighing about two ounces each, and smoked to a deep yellow. They should be handled in small quantities only, as they do not keep in good condition for longer than three or four days.

Summer Sausage: equal parts of finely minced lean beef, lean pork and fat pork, flavored with spices and sometimes with garlic, etc., shaped into large balls and allowed to cure for three or four days, stuffed into beef middle casings and hung up to dry for one or two weeks, then smoked red and hung for two to three months to harden. If this sausage becomes white in keeping, it should be rubbed with a cloth saturated with fat or olive oil.

A good deal of Summer Sausage, chopped coarser, is sold as "Salami."

Thuringian Red Sausage: principally, moderately fat pork; also scraped pigskin, salted tongue or heart, liver and lungs, etc., and fresh blood, flavored with spices. Filled into wide hog casings, cooked and smoked, with a considerable proportion of juniper brush added to the smokehouse fire.

(1) Frankfurters
(2) Salami
(3) Bologna
(4) Cervelat
(5) Head Cheese
(6) Mortadelli

TONGUE SAUSAGE: chiefly tongue in small pieces, with the addition of some pork, chopped to a paste.

VIENNA SAUSAGES or *Wienerwursts*: finely minced lean beef and fat pork, flavored with coriander, mace, lemon peel, etc., and sometimes garlic and shallots, stuffed into sheep casings and twisted off into sausages about three and a half to five ounces each, dried and smoked. They should be of a chestnut brown color. A hot Vienna sausage should break open when bent and show plenty of juice.

WESTPHALIAN SAUSAGE: generally equal quantities of lean beef and fat pork in very small dice, stuffed into narrow hog casings and smoked. If hung in a dry, airy place, they will keep good for a long time.

WIENERWURSTS. See *Vienna Sausages.*

SAUTER: a form of frying. See general article on COOKERY.

SAUTERNES: one of the best known types of white BORDEAUX WINES (which see).

SAVORY, or *Summer Savory*: an annual herb of the mint family, with strong, agreeably aromatic smell and flavor. Its leaves are in common use, both fresh and dried, for flavoring soups, etc., Dried Savory being retailed both loose and in cans and bottles. The blossoms and branches are also sometimes similarly employed.

SAVOY CABBAGE: a variety of cabbage with rough, green curly or crimpled leaves. As it is a very hardy type it is especially suitable for winter use.

Savoy Cabbage

SCAD, or **Horse Mackerel:** a fish of mackerel type and flavor, seldom eaten fresh but a popular article when salted.

SCALES. The wise grocer will see that his fixtures include the very best balances obtainable. Every extra dollar judiciously spent on a good scale will repay itself a hundred per cent. the first year. Care should always be taken not to strain scales by weighing heavy goods on small ones unfitted for such use.

SCALLOP, or *Scollop*: a variety of shellfish, somewhat resembling the oyster, very plentiful on the New England coast and found on sandy bottoms along the entire Atlantic shore-line of the United States. They are in season from the middle of September to the end of March. Only the muscle, or "hard part," used for opening and closing the shell, is eaten, the remainder, called "the rim" by fishermen, being very soft and considered unfit for food.

Emptying the Scallops on the Culling Board

SCHIEDAM SCHNAPPS: fine gin of Schiedam distillation. See GIN.

SCHNAPPS: a German word signifying "dram," a small drink, etc., which has come to mean Holland gin (see GIN).

SCHWEITZER KASE. See general article on CHEESE.

SCOLYMUS, or *Golden Thistle*: a vegetable with roots resembling those of the Oyster Plant in flesh-character and flavor and similarly prepared.

SCONE: originally a Scotch "cake," generally of oatmeal but also sometimes of barley or wheat. The title is now applied to a round or three-cornered home-made "biscuit" of dough or batter mixed with sour milk or buttermilk and bicarbonate of sodium, cooked either in the oven or on a griddle.

SCOOPS. It is economy to buy only good, strong scoops capable of standing plenty of use. Steel and three-ply wooden types are among the best.

SCRAPPLE: a Pennsylvania dish which originated among the Germans. The genuine old-fashioned formula calls for a young pig's head, boiled until the meat is readily separated from the bones. The meat is then minced very fine and put back into the soup, which is afterwards thickened with buckwheat or cornmeal and seasoned with spices and herbs. When of the consistence of mush, it is run into pans to cool, to be later sliced and fried for the table.

The scrapple of general consumption is made from all waste portions of fresh pork, including the liver and kidneys, and a product of this inferior quality is widely retailed in butcher and delicatessen stores, etc.

SCROD. See sub-head in matter on COD.

SCRUB CLOTHS. A modern commercial development is the manufacture of cheap towels of specially absorbent texture for scrubbing purposes, to take the place of the former unsanitary method of using old rags. They are offered at such low prices that they are commendable both for store purposes and for sale to customers.

SCUPPERNONG: a grape of the Muscadin family and one of the most famous of the several varieties native to the Southern States. It takes its name from the Escapernong tribe of Indians. It is mentioned in the records of the first explorers, and the wine from it has been in great favor since the earliest settlement of the country.

The Scuppernong grows singly or in small groups, instead of in large clusters or bunches. It does not bear profitably in the Northern States, but it grows freely and bears lavishly, both wild and cultivated, in the South. The berries ripen individually and are in some vineyards gathered from the ground as they fall from the vines. In others, they are picked from the vines as they mature. They are the biggest of all cultivated grapes, being frequently double the size of the largest Concord. The several varieties may be grouped into "white," or green, and "purple," the former being the more noteworthy. The "white" berry is dull green, frequently spotted with brown.

The Scuppernong is not a particularly good table grape—its flesh is sweet, but marked by a musky odor and taste which is displeasing to some palates, and it is more perishable and consequently more difficult of transportation than other varieties—

but it makes excellent wines, classed as "Scuppernongs," white and red, dry and sweet, still and sparkling—the best known being a sweet, aromatic, still, white wine of golden hue.

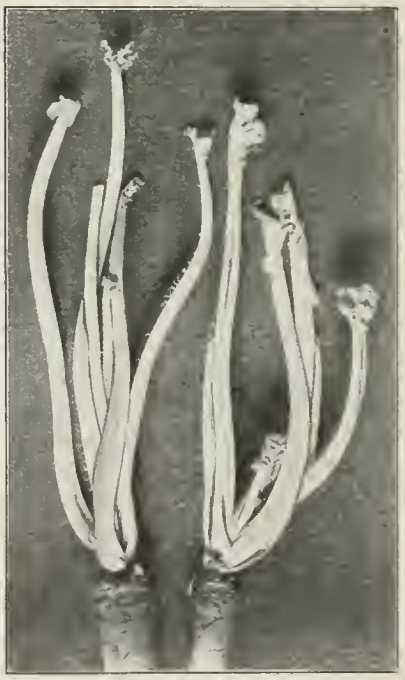
The Scuppernong, unlike other wine grapes, is generally allowed to spread as widely as it wishes, a single vine frequently covering one or more acres, being supported and trained over arbors.

Sea Grapes

SEA GRAPE, or **Shore Grape:** the pleasing purplish-red fruit of a broad-leafed bushy plant found in Florida, the West Indies and elsewhere. It has no relation to the true grape, taking its title only from its clustered growth on long pendulous stems.

SEA-KALE: a vegetable found wild along the Western coasts of Europe, and cultivated to an increasing extent in England and the United States. The young shoots, if properly blanched, are tender and of a delicate nutty flavor. They are prepared for table in the same way as asparagus.

SEALING WAX: is composed of shellac, resin and turpentine, together with some pigment (generally red or black). It was originally used for sealing public documents, and later for sealing fruit jars! It has more recently been supplanted in the latter use by paraffin wax and similar devices.



Sea Kale

SEA MOSS. See articles on SEAWEED and MOSS.

SEA ROBIN: a fish found on the North Atlantic coast, which deserves greater favor than it has hitherto received. It is repulsive in appearance, but the flesh is good.

SEAWEED. In popular American belief, fish is the only form of food that the ocean offers us, but it is also rich with a great number of edible *Algae* or seaweeds and the future will in all probability see a vastly increased use of the yet immeasurable food supply of deep salt waters. The most prominent of the varieties of present commercial importance are Carragheen, Dulse, Kanten, Kelp and Laver, which are described elsewhere in their alphabetical positions.

SEEDS. All grocers should handle seeds, as they are profitable and of ready sale. Care should be taken not to lay in too large a supply, commencing instead with only the most popular varieties in small quantities and gradually building up a regular demand.

SELF-RAISING FLOUR: wheat or buckwheat flour prepared by the addition of substances which, when moistened, have the same effect as yeast or baking powder. It is largely sold for pancake and biscuit purposes to save time in cooking by avoiding the process of setting to rise, as with yeast, or mixing, as when ordinary flour and baking powder are used.

SELTERS, SELTZER. See article on table and medicinal MINERAL WATERS.

SEMOLINA, or *"Semola."* See matter under heading of FARINA.

SERVICE BERRY. See under title of JUNE-BERRY.

SESAME OIL: obtained from the seeds of the Sesame Plant, cultivated in Oriental countries, is a pale, sweet, straw-colored product, which is extensively used in perfumery manufacture, for blending with olive and other edible oils, etc.

SEVILLE ORANGE: the "bitter" or Bigarade type. See ORANGES.

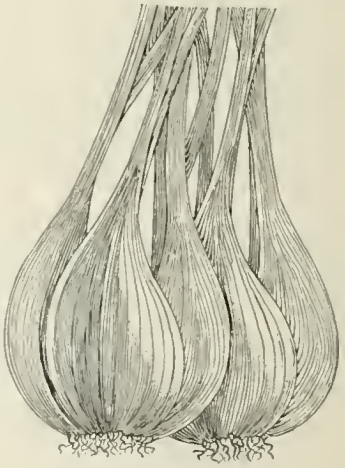
SHAD (*see Color Page opposite* 540): a fish resembling the herring, but much larger, often eighteen inches and more in length, and sometimes weighing as much as ten pounds. The average market weight is about four pounds. The body is of compressed shape, the back rounded and the scales silvery with a reddish tinge. It is in season from January to the beginning of June and is a very popular food, both fresh and salted.

Shad Roe is in season from January to June, but is not in fine condition until about March, and sometimes a little later, according to locality and other circumstances.

SHAD BERRY. See under title of JUNE-BERRY.

SHADDOCK. See article on GRAPE FRUIT.

SHALLOT, or **Scallion:** a vegetable of the onion tribe, of stronger but more mellow flavor than the Common Onion, used for flavoring sauces, stews, etc.



Shallot

The true shallot ranges in size from a walnut to a small fig, is inclined to pear-shape and has a thick outer skin shading from reddish to grey, the bulb underneath being greenish at the base and violet on the upper portion. It grows in "clove" form, several cloves attached to a common disc.

The Jersey or False Shallot is of various shapes, frequently larger than the True Shallot, with thin red skin and bulb sometimes white but generally all violet.

New shallots reach the market about midsummer, but the chief sale is of the dried, which may be kept all the year. The young leaves are also used for seasoning

A common practice is the sale of small red onions as shallots.

SHAMMY. See item under heading of CHAMOIS SKIN.

SHEEP. See matter under heading of MUTTON.

Sheepshead

SHEEPSHEAD: a Southern sea-fish, so named because its head and teeth resemble those of a sheep. It is in season from the middle of June to the middle of November. Large specimens attain a weight of fifteen pounds.

SHELLBARK: a variety of hickory, so titled because the old trees "shell off" their bark in long strings. The use of the term as a name for the nut itself is confusing, as two varieties of the hickory tree are "shellbarks," yet the nuts differ, one being thin-shelled and the other thick-shelled.

SHELLFISH: may be divided into two classes—*Crustaceans,* those which have an articulate body, such as lobsters, crabs, prawns, crayfish and shrimps, and *Mollusks,* the invertebrate varieties, as oysters, clams, scallops and mussels.

The above examples of mollusks may be further styled "bivalves," to distinguish them from "univalve" mollusks, such as abalones, cockles, etc.

Following is a list of the principal American shellfish and the months during which they are, generally, in season:

CLAMS, hard—all the year.
" soft—October 1 to June 30.
CRABS, hard—all the year.
" soft—May 1 to October 15.
CRAYFISH—September 1 to April 30.
LOBSTERS—all the year.
MUSSELS—all the year.
OYSTERS—September 1 to April 30.
OYSTER CRABS—October 1 to April 30.
PRAWNS—September 1 to March 30.
SCALLOPS—September 15 to March 30.
SHRIMPS—March 15 to May 15; and September 15 to October 15.

The edible flesh of several of the crustaceans is rich in protein compounds, the most noteworthy in that respect being, in the order named, shrimps, lobsters and crabs.

Of the mollusks, the richest is the abalone, which ranks between the shrimp and the lobster in protein values—then, with much smaller percentages, come, in the order named, scallops, clams and oysters. With the exception of the abalone, the mollusks show a larger percentage of carbohydrates than the crustaceans, but the principal difference is that they contain a greater percentage of water.

The composition of the oyster solid is quite similar to that of milk—occupying a position between full and skim milk, as will be noted by the analyses following:

	Water	Protein	Fat	Carbohydrates	Ash
Oysters	88½	6	1½	3½	1
Whole Milk	87	3+	4	5	¼
Skim Milk	90+	3½	½—	5+	¼

See also special articles on each variety of shellfish.

SHERBET: a term which, in this country, is generally used to designate ices in which liquors or fruit juices are used for flavoring. Also, though not so frequently, a fruit beverage similar to lemonade. The name comes from the east and applies there to various kinds of fruit beverages, frequently scented with rose water or some other odor and flavored with spices, much consumed by Mohammedans, who are forbidden by the Koran to drink intoxicating liquors. In other countries the name is loosely applied to many beverages, several of them containing rum, currant wine, etc.

SHERRY: a "white" wine made from grapes grown in and around Xeres, Andalusia, Spain, its name being an English attempt to say *Xeres*—"Sherries."

The process of manufacture is exceedingly simple and one in which scientific principles, as now understood, have never entered. After the grapes are pressed in the *Lagar,* or Wine Press, the resultant *Mosto* (Must) ferments in the open air and is subsequently transferred to *Bodegas* (Cellars) for storage. There it is again allowed free contact with the atmosphere in the process of its development, older wine being added from time to time to take the place of that lost by evaporation. New crude wine ranges between 12% and 14% in alcoholic content. Blending and fortification result in the strength of the sherry sent to the American market averaging about 19%.

Exterior of a typical Bodega, Xeres, Spain

The product of the various vineyards varies little in essential characteristics when first fermented, but within twelve months most marked differences arise, developing eventually into types widely distinct, such as Raya, Fino, Palma, Palo Cortado, Oloroso, etc.

Raya signifies a fairly full and slightly coarse wine; *Fino,* a light-colored, pale, delicate wine of fine aroma; *Palma*, a wine approximating to *Fino* but with a higher degree of delicacy and bouquet; *Oloroso*, a full bodied, highly-developed, darker-colored wine. *Palo Cortado* is more difficult to describe, but may be classed as in style between Fino and Oloroso. Oloroso—a highly-prized product of the vineyards of Xeres—is found in less quantity than the other types and is ordinarily subjected to a separate subdivision by experts.

Classified as Raya, Fino, etc., each *"Anada,"* or vintage, is held until the time comes for its being passed through *"Soleras."* The word *Solera,* literally translated, signifies "Base" or "Plinth." In sherry-making, "soleras" are the stored mature "Mother Wines" added to the younger product and gradually imparting their special characteristics to it—the distinctive merit of a Solera being thus, as it were, handed down through many vinous generations.

The bulk of the sherry marketed is blended from various Soleras in proportions that differ according to the desired style and quality, but some are shipped in their natural state, *Fino, Oloroso*, etc., and as such appeal to many connoisseurs. Sweetening, color and flavoring are frequently added.

Although Xeres is the seat of Sherry production, other districts not far distant contribute wines of similar character which are ordinarily known by the same title. Among these, the most prominent is the vicinity of San Lucar, where is made the renowned *Manzanilla*, a very pale, delicate product of the Fino type but with less

body, and possessing the slight Camomile flavor from which its name is derived. *Montilla* is another outlying district which has produced several vintages of the very highest merit and commanding high prices. Its value may be judged by the fact that the word "Amontillado," which stands for one of the best qualities of Xeres wines, signifies "of *Montilla* style."

Huge Solera Casks and various styles of packing in a Sherry Bodega

Among the best known of the numerous titles associated with high class sherries in the American market are *Amontillado*, *Oloroso*, *Fino*, *Manzanilla*, *Vino de Pasto*, *Solera*, *Palma*, etc.

Invalid Sherry signifies an especially carefully selected high grade variety.

SHERRY COBBLER: a mixture of sherry, lemon, sugar, water and ice.

SHOE POLISH. See item under the heading of BLACKING.

SHOT. One of the secrets of the manufacture of shot and the part of the process requiring the most skill, is the mixing of the lead with a certain proportion of an alloy called "temper." The temper is melted with the lead and gives it a peculiar quality which causes it to drop from the sieve in globules. Without it, the metal would leave the sieve in strings or little "pencils," instead of the round form desired.

The melted lead is poured into a pan perforated with holes corresponding to the size of the shot to be made. This pan, or sieve, is located at the top of the shot tower and the little pellets come pouring down in a continuous shower, falling into a tank filled with water. In their descent the pellets become cold enough to solidify, and when they strike the water, it bubbles as if boiling furiously. The water tank is a necessity, for if the pellets should strike any solid substance they would be flattened out of shape. An elevator with small buckets, perforated to allow the water to drain out, carries the shot up as fast as it reaches the bottom of the well and delivers it to cylindrical steam-heated "dryers."

After drying, the next step is the separation of the perfect from the imperfect shot. This is very important, as accurate shooting requires that the pellets be uniform in size and all of them perfectly round. In the more modern towers, the separation is accomplished by the use of inclined glass tables. At the lower end of the tables, and extending entirely across them, are two iron gutters, one just beyond the other. The shot is spouted onto the tables at the upper end and the perfectly round pellets travel very rapidly down the incline, acquiring sufficient momentum to carry them over the first gutter into the second one. The imperfect pellets, not being perfectly round, travel more slowly and drop off into the first gutter. The device is most efficient, and it is very interesting to watch the little pellets chase one another down the incline.

After the imperfect pellets have been removed, the perfect shot is ready for polishing, accomplished by revolving with a little plumbago. Nothing then remains but to pack in bags for shipment.

SHOWCASES. Every progressive grocer should have one or more showcases and keep them in first-class order. The truth that goods properly displayed are half sold, is the strongest argument in favor of well-polished plate glass, both in the grocer's window and his counter cases. Fine goods can be opened and displayed in such a way as to tempt any customer, and yet be removed from dust and fingering.

SHRIMPS (*see Color Page opposite* 346): small shellfish slightly allied to the lobster, found along the coasts of the United States, England and some parts of Europe. They are in season here from the middle of March to the middle of May and from September 15 to October 15. As caught, they are about two inches long, of a greenish-grey, freely dotted with brown, but very few people ever see them except as they are after cooking, then of a pretty pink tint. In England, great quantities are sold in bulk, but in this country the trade is supplied principally with the canned variety and their chief use is in salads. See also PRAWNS.

SHRUB: a West Indian drink, made of lime or lemon juice, the rinds of the fruits, sugar, water and, generally, spirits of some kind. Rum is the spirit most often used, the beverage then being known as "Rum Shrub." Other fruit juices or extracts are sometimes substituted for the lemon juice.

SILLIBUB, or *Sillabub*: is made by whipping a mixture of wine, cider or spirits and cream, or milk, to a froth and flavoring. The wine turns the cream into a soft curd.

SILVER HAKE: another name for the WHITING (which see).

SILVER POLISH. There are a great many silver polishes on the market—pastes, powders, soaps and liquids, variously composed—and, unlike some other lines, most of them do their work more or less satisfactorily, but it is best to avoid laying in a large stock of any new brand, no matter how good it may be, unless it is manufactured by a firm financially strong. The reason for this advice is, that it is possible to enter the polish-making business with a minimum capital, and, as a result, new concerns are continually starting up, only to fail after a short period for want of enough money to work with—leaving the merchant with a lot of "dead" stock. It may be excellent polish, but the makers are out of business and no one is pushing or advertising it and consequently no one asks for it. Even those customers who have used and liked it, will probably order something newer which another house has commenced to advertise—and there is not much satisfaction in talking up a defunct brand with no future sales in it and with no special reward for the special effort required to get it off the shelves. These remarks may be adapted to quite a number of other items and circumstances! See also JEWELERS' ROUGE.

SIMNEL CAKE: a sweet farina cake, originally served in many communities on *Simnel Sunday* (also known as Mothering Sunday, Refreshment Sunday, etc.), the fourth Sunday in Lent, but now equally popular for Christmas and Easter.

SIPHON BOTTLE: a bottle especially manufactured to contain carbonated liquids. It is fitted with a tube reaching from the bottom to the discharge nozzle, the valve closing the tube being operated by a lever at the handle. The liquid is discharged by

the pressure of the gas. Care should be exercised in handling siphon bottles, as sudden jars or sudden changes of temperature may cause them to explode.

SIRLOIN. See general article on BEEF and illustrations of *Beef Cuts.*

SIRUP. See SYRUP.

SKATE, or *Ray-Fish*: a light-colored, rather large flatfish; found along the North Atlantic coast. It is so extremely ugly that it is seldom shown in its natural condition and the body is so full of bones that, as a rule, only the saddles are sold, but the flesh is delicate and pleasing in flavor and is consumed both fresh and salted. It is in season all the year except during July and August.

SKIRRET: a European herb of the parsley family, with small white fleshy roots resembling those of the Oyster Plant. They are usually boiled and served with butter.

SLAW, or **Cold Slaw:** the raw heart of the cabbage head, cut into long shreds and served with vinegar, or other seasoning or dressing, as French dressing, cream, etc.

SLIVOVITZ: is a liqueur prepared in Austria-Hungary, Germany, Poland and other European countries, from Damson plums. It takes its title from *Sliva* or *Šljiva*, the Servian name for the fruit. In manufacture, the plums and a liberal proportion of the ground kernels are first crushed and pressed, then starch-sugar is added to the juice and the mixture is allowed to ferment. Distillation gives the crude product, and clarifying processes complete the liqueur, but aging is required to develop its finer qualities. Its pleasing flavor is due largely to the plum kernels, which contain a considerable percentage of Amygdalin, the characteristic component of bitter almonds. The most highly esteemed product is that made in Syrmia, a county of East Slavonia (Austria-Hungary).

German "Slivovitz" is best known under the local title of *Zwetschenwasser.* The French *Prune Cognac* is of similar manufacture, but sweet plums are frequently employed in its preparation.

Imitation Slivovitz is made by flavoring spirits with prune juice and artificial oil of bitter almonds.

SLOE, or *Blackthorn*: a shrub of the plum family, common in many parts of Europe and in some sections of America, which is credited with being the parent of the cultivated plum. The fruit is nearly round, about the size of a very large pea and pale blue with blackish bloom. When raw, it is sour and astringent, but large quantities are utilized in Europe in preserved form and as flavoring for various liquors and liqueurs (see sub-head of *Sloe Gin* in article on GIN.) The juice is also sometimes employed in the manufacture of imitation port wine, and the dried leaves have frequently served as an adulterant of tea. The "suckers" of the bush are the well known blackthorn walking-canes.

SMELT (*see Color Page opposite* 504): a delicate little silvery-colored fish of the salmon or trout family, in season from the middle of August to the middle of April. Its weight averages from two to fifteen to a pound. The Maine variety has, when

fresh, an odor like cucumbers. Lake Champlain "smelt" or Ice Fish, caught in the Great Lakes during the winter months through holes in the ice, average from ½ to 1¼ pounds each.

SMIER-KASE. See *Cottage Cheese* in general article on CHEESE.

SMOKED MEATS: need especially careful attention during the summer months.

For a discriminating class of trade, "canvassed" are preferable to "naked" hams and bacon. Under present methods of government and state inspection, the consumer is reasonably sure that the ham that he purchases came from an animal in sound health, and that it was cured under cleanly surroundings, but unless it is wrapped or canvassed, much of this precaution may be offset by carelessness and uncleanliness in the handling of it afterwards. The canvas serves as a protection both during the delivery of the meat to the retailer and while it remains in his possession—right up to the moment of delivery to the consumer.

Canvassed hams and bacons received in quantities, should not be allowed to lie packed any longer than necessary.

Mold on hams and bacons is not a sign of poor quality or deterioration. If it appears on "naked" or unwrapped hams, it may be easily removed by rubbing with a cloth slightly moistened with sweet oil or lard. This application is sometimes desirable even when no mold appears, as it tends to prevent its formation and gives the meat a bright, fresh appearance.

A simple and inexpensive method of keeping "naked" smoked meats in hot weather, is to put them into paper flour sacks, tying the tops with strong twine and then hanging them from the ceiling, where the air can pass between them.

Smoked or dried sliced meat put up in tin should be removed immediately after opening, as atmospheric contact sets up oxidation and the contents are rendered unfit for use.

With the exception of a few special varieties, such as Virginia, Westphalia, etc., which are credited with improving with one or two years' keeping, the best ham and bacon, other things being equal, is that which is the freshest cured. Formerly, the smoking was practically suspended during hot weather, but modern mechanical refrigeration makes it possible to cure hams and bacon of the finest quality every day of the year.

See also BACON and HAM.

SNAILS. The edible land snails consumed in large quantities in France and several other European countries, present a considerable diversity in size and appearance. The most highly esteemed are the *Helix Pomatia*, locally known as the Burgundy, Large White, Roman, Vineyard, etc., with shells varying from greyish-yellow to greyish-red and with irregular black markings, the latter in some cases completely covering the shell. They are gathered in vineyards and also raised in Snaileries or Snail Farms —patches of moist clayey ground, suitably fenced or separated by little water canals, and provided with bushes or high plants for protection against the sun, shaded pools of water and, frequently, low sloping wooden "shelters." They are fed principally on lettuce and other green stuff, but fruit and aromatic herbs, such as thyme, may also be included in the diet to give a special savor to their flesh. The creatures are prolific, each giving in the spring from 50 to 60 eggs.

Next in importance to the Large White, is the "Black Mouth," much smaller but also of very good flavor.

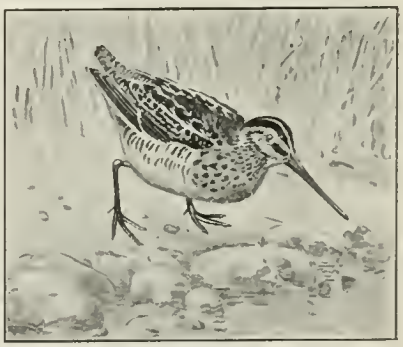
The common snail of the garden, woods, etc., consumed chiefly by the poorer classes, is commercially classed as the Small Grey. It is generally grey, with faint markings, but is also sometimes a full yellow.

The Snail Market plays an important part in the food supply of Vienna during the Lenten season, large quantities of "Swabian Snails" being imported from Wurtemberg and other parts of S. W. Germany, but Paris is the best customer of the collector and breeder—an average of 80 millions a year being sold in its principal markets, the *Halles Centrales*, alone.

Snails are for market purposes graded according to variety, size, etc., and packed in baskets, bags and casks. The two principal seasons are the spring and winter. The former is supplied largely by itinerant gatherers of the "wild" snails which show themselves freely after spring showers. The fall and winter supply, the last-named generally bringing the highest prices in Paris, is of snails (from snaileries and elsewhere) which have sealed themselves up for the winter—which explains the apparently "dried" condition of the fresh imported snails received here.

The American consumption has noticeably increased during the last few years. In some parts, native snails are caught and marketed, but preference is generally given to the European product, imported both fresh and canned, to a yearly total of $50,000 and upward. They are prepared in numerous ways—generally with liberal additions of herbs, spices and wine—and are considered a delicacy by many people.

SNIPE: a small game bird somewhat resembling the woodcock. Its plumage is of variegated appearance, being most elaborate in the female. The best known varieties are the Jack Snipe, the smallest; the Common, and the "Great Snipe," the largest.



Snipe

SNUFF: is made from various grades of leaf tobacco and in many styles, from fine-powdered to coarse, and from plain to highly perfumed.

There are three main classes: *Scotch*, dry, yellow or light-colored and finely powdered, its distinctive odor due to the extent to which the "toasting" is carried; *Maccoboy*, which is semi-moist, and usually not so finely powdered as Scotch, and *Rappee*, which is quite moist, the grain varying from very fine to very coarse. Scotch snuff is usually divided into: Plain or Strong Scotch, Sweet Scotch, Salt Scotch, High Toast Scotch and Irish or Lundyfoot Scotch.

The habit of snuff-taking is much less general than formerly, but "snuff-rubbing" —rubbing the teeth and gums with it, generally by means of a tooth brush or similar small brush—has extended widely through the South and Southwest, and large quantities are manufactured expressly for that trade.

The oils used in perfuming are expensive and form one of the most important items in the cost of manufacture. They vary in price from two or three dollars, to more than a hundred dollars, per pound. Attar or oil of roses, employed in scenting many varieties and a great favorite among snuff-takers, costs from five to eight dollars an ounce. Great quantities of oil of lemon, bergamot, etc., are also consumed

annually. The olfactories of customers are very sensitive to perfumes, and many manufacturers find it difficult to cater successfully to their tastes.

After the snuff has been scented, it is packed in jars, bladders or foil, and stamped with the government international revenue stamp. Scotch, also known as "yellow" snuff, is always put up in carefully prepared bladders.

SOAKAGE: an allowance made on articles packed in brine, in the shape of an extra "tare" to cover the weight of water soaked up by the wood. It is calculated according to the size of the package and other general conditions.

SOAP: is supposed to be of Celtic origin. Its first introduction to civilization took place after the invasion of Gaul by the Romans. During the 8th century, Italy and Spain were the centers of the industry. Five hundred years later, pre-eminence had been won by the soap-makers of Marseilles, France. To-day, the honors are evenly shared by the United States and several European countries. It is interesting to note that the first patent granted by the United States was in the interest of soap manufacture, protecting a method of making potash and pearl-ash devised by a Samuel Hopkins.

Soap manufacture on an extensive scale was greatly stimulated by Le Blanc's discovery in 1791 of the method of obtaining Caustic Soda from crude common salt, and by Chevreul's enlightening exposition of the true chemistry of soapmaking, half a century later. The Le Blanc method is still employed, though it has recently been largely superseded by the Solvay ammonia and Electrolytic processes.

The soaps of ordinary domestic use consist of fats or other oily substances, saponified by mixing with water and alkalies. The finest varieties are made from vegetable oils—olive, palm, cocoanut, peanut, cottonseed, etc.; the cheapest from animal fats, principally tallow. Common soap generally consists of tallow, blended with a varying proportion of vegetable oil—cocoanut for quick lather, oleo or cottonseed oil for mildness, etc.—as tallow alone discolors and hardens with age. Its cleansing properties are attributable chiefly to the fatty acids into which the bulk of the fat is converted during manufacture.

For ordinary, or "hard," soap, caustic soda or soda-ash is the alkali employed. For Soft Soap, caustic potash is the chief alkali, only enough soda being used to give the product fairly stable consistence, the result being the retention of the glycerine and a large proportion of water.

By the most widely used method for the production of common soap—which is also the basis of the finer toilet and special soaps—the melted fat or oil is first boiled in caustic soda lye. As soon as it commences to emulsify, stronger lye is added—this being repeated from time to time as long as the lye is absorbed and until the soap is smooth and dry when pressed and has a slight persistent caustic taste. Boiling, without further additions, is then continued until the mixture is nearly neutral again, then dry salt, brine, or, in some cases, caustic soda lye, is added to the paste and boiling continued until "separation" begins to show. It is then allowed to cool, the crude soap forming on top and the spent lye—a mixture of crude glycerine, salt, alkali, etc.,—settling at the bottom and being run off. Next comes, in many cases, a further strengthening—the soap, together with a certain quantity of water, undergoing a prolonged boiling, caustic soda lye being added from time to time in the first stages. Another settling follows and the lye is again drawn off. The soap is then boiled, water

being added to produce the right consistence, and is left to settle and rest for several days. The pans will then show four layers—the top is a thin soap which is taken off and sent back for further treatment; second, is the good "settled" soap, constituting about 65% of the contents of the pan; third, is a dark weak soap which is also worked over in various ways; and at the bottom is a weak lye solution. The good settled-soap is ladled or pumped out, melted, cleaned, "crutched" or mixed, etc.—rosin, sodium of silicate, soda-ash, etc., being added in many cases—finally going into large frames, which consist of iron plates clamped together and set on wooden bottoms, fitted with wheels so that they can be easily taken to the cooling room. In four or five days, when the soap is cool enough to strip, the sides of the frames are unclamped and the soap stands on the wooden bottoms in solid masses of half a ton or more. They are later cut, first into bars and then into squares, by machines with regulated wires.

Toilet Soaps.

Toilet Soaps of the better grades are generally known in the trade as *Milled Soaps.* Common soap of the best quality is chipped, dried by hot air and passed through rollers which blend and flatten the chips into thin sheets which are automatically cut into ribbons. The desired color is added, and the milling and cutting are repeated two or three times. The perfume is then added and a final milling takes place. The product goes next to pressing machines and is later stamped or shaped in molds. A mixing machine which blends the "ribbons" together with the color or perfume, is frequently substituted for the second and subsequent milling processes. Milled soap contains less water and therefore lasts longer than other soap.

The perfumes employed in scenting soaps vary with the market grade of the product—from expensive natural oils to the cheapest of imitation and artificial essences (see PERFUMERY). Compound odors are, in all grades, more frequently employed than single odors.

Re-melted Soap is toilet soap produced by one of the older methods. The settled soap or soap basis is remelted, agitated, treated with a pearlash solution to make the product finer and smoother, and variously colored and perfumed.

BROWN WINDSOR SOAP is an old-fashioned variety which owes its color, when made by the original process, to the frequent reboiling of the stock and the long aging of the finished product. The effect is frequently obtained more expeditiously by the use of coloring matter.

CASTILE SOAP OR OLIVE OIL SOAP, MARSEILLES SOAP, SPANISH SOAP, VENETIAN SOAP, if genuine and of the first quality, is made entirely of olive oil. The name "Castile" records its Spanish origin, but Marseilles, France, is the chief modern place of manufacture—in Europe it is indeed generally known as "Marseilles Soap." As great care is taken to avoid an excess of alkali, only just enough being employed to neutralize the oil, it is very mild and may be used on wounds and other surfaces where a common soap would result in irritation.

The color of genuine Green Castile Soap is due to the natural chlorophyll extracted from the olive pulp while obtaining the "foots" or industrial oil after the first pressings of the fruit for the finer grades. When other oils are substituted, the green hue is artificially supplied.

On account of the high price of olive oil, the bulk of the Castile Soap of modern manufacture contains a considerable percentage of peanut, rape seed and other

similar vegetable oils. The genuine imported article is nevertheless an excellent soap —but caution is advisable in purchasing, as a number of American, English and other "Castiles" are very inferior.

Cocoanut Oil Soap contains no other ingredients than the oil expressed from cocoanut flesh, and alkali. It is widely known as *Marine Soap* and is generally used at sea as it lathers better in salt water than other kinds. Cocoanut oil is also extensively employed in many other soaps—to blend with tallow or other fats—because of its free lathering properties.

Floating Soap owes its low specific gravity to the air beaten into the hot soap during manufacture. Its composition usually includes a large proportion of cocoanut oil. The white color ordinarily characteristic of this type may generally be accepted as an indication of the purity of its ingredients, and its lightness guarantees the absence of any heavy adulterants, but it is more rapidly consumed than heavier soaps.

Glycerine Soap is a form of Transparent Soap (see below).

Olive Oil Soap is generally known as *Castile Soap* (which see).

Shaving Soap of the best grade, consists generally of a mixture of neutral soda and potash soda soaps, glycerine being added to some varieties during the milling.

Transparent Soap is still produced by some concerns by the old-fashioned process of dissolving dried soap of good quality in alcohol. All insoluble impurities being thus deposited and removed, the alcohol is distilled out and the soap, after coloring and perfuming, is run into frames and stored for a considerable time before marketing. Later and less expensive methods have substituted the use of glycerine or sugar solutions during manufacture.

Laundry Soap.

Yellow Soap, Rosin Soap or Bar Soap owes its color to the large quantity of rosin incorporated. Most laundry soaps contain this ingredient, as it supplies the lather lacking in the tallow, their chief component. It also possesses detergent properties and is at the same time a cheap filling material. Another characteristic ingredient is Sodium Silicate, but an excessive percentage of this offers no advantage except the reduction of cost to the manufacturer.

It is helpful advice to suggest to a housewife the purchase of laundry soap by the box, as it will be found less wasteful if allowed to harden for a moderate length of time. It is best cut in square pieces and stored on an upper shelf, with spaces of an inch or so separating the blocks.

Among other special types are Ammoniated Soap, used both for the laundry and bath; Borax Soap, a hard white variety possessing remarkable detergent qualities; Naphtha Soap, and Cold Water Soaps—the last-named so prepared as to lather freely in cold water and therefore popular in many households for laundry purposes during hot weather.

Mottled Soap: owes its appearance to the addition of a silicate of soda solution and coloring matter (ultramarine blue, copperas, etc.,) employed to imitate the mottled effect of many soaps of former days—due then to the impurities left in by poor manufacturing methods. When copperas, or sulphate of iron, is used, a bluish oxide of iron marks the soap, changing to red oxide on exposure to the air.

Scouring Soaps: are made by adding some natural silicious material to a soap mixture composed generally of tallow and cocoanut oil. Sapolio, manufactured by the Enoch Morgan's Sons' Company, is the best of the class.

SAND SOAPS, quite generally used in Philadelphia and Baltimore, form a separate type. They are made by the addition of fine or "Silver" sand to an ordinary soap basis.

Soap Powder, or *Dry Soap*: is a mixture of soap, soda-ash, sodium silicate, etc.

Medicated Soap. This title includes a great variety of types, various drugs being added during the final mixing, as carbolic acid, creosote, sulphur, etc.

TAR SOAP contains from 5% to 10% tar, the unpleasant odor being usually disguised by the addition of cinnamon, lavender or similar perfumes.

Retailing Soap. Soap is a money-making line for a merchant if properly handled. Good laundry soaps—the kinds that lather and wash well and are free from injurious chemicals—are always salable. The trade in toilet soaps depends upon the judgment exercised. Cheap soaps, no matter how showy their wrappers, will only confirm customers in the idea that "they can't get good toilet soap in a grocer's." Premium goods often entail more trouble than is warranted by the profit. "Cut-price" goods generally mean a lot of work for nothing. The best plan is to sell only first-class brands that give a good profit. Other things being equal, give attention to the wrappers—a pretty package is a distinct advantage. A showcase that will afford both display and protection from dust, is absolutely essential.

SOAP BARK, or *Quillai Bark*: the inner bark of an evergreen tree growing in the mountainous parts of Chile, which, when bruised and agitated in water, makes a lather as soap does. It is believed to take its name from the native word *quillay,* which signifies "to wash." Commercially, it is employed for removing grease from silks, as it does not change the color of the fabric, and also in the form of a hair wash.

SODA: in the form in which it is chiefly used for food purposes, is variously known as *Bicarbonate of Soda* or *Sodium, Supercarbonate of Soda, Saleratus* and *Baking Soda.* The prefix "Bi" in the first-named title stands for "two," meaning two equivalents of *carbon-dioxide* to one of the base, which is *soda.* It is one of the chief ingredients of all BAKING POWDERS (which see).

When employed in baking biscuits, etc., Baking Soda produces the carbon-dioxide, which is the active "raising" principle, by reaction in contact with the acid contained in the sour milk or buttermilk which accompanies its use. Its action as an ingredient of baking powder is identical, for it then reacts under similar conditions with similar result in contact with the acid which is a complementary component.

Baking Soda is a valuable ally to the housekeeper. A pinch of it stirred into milk that is to be boiled will keep it from curdling. A bit, the size of a pea, added to the tomato for Tomato Cream Soup will prevent the milk breaking when it goes in—and is a safeguard with all cream soups. Another piece, cooked with green vegetables, will keep them a fresh color. A pinch in the water in which dry beans are soaked, will expedite the process wonderfully. Many other similar uses might be cited.

Baking Soda is generally obtained as a side product in the manufacture of Soda proper or Sal Soda, known in the average household as Washing Soda.

Washing Soda. Among the various uses of Washing Soda—in sinks, etc.—is the service it renders in cleaning tin cooking vessels and utensils. They should be put in a wash boiler with plenty of water and a good supply of soda and allowed to boil for a few minutes—then remove the boiler from the stove, but permit the tins to remain in the solution for an hour or two. When rinsed and wiped, they will be bright and new looking. It is well to avoid as much as possible putting one's hands in the water, as it will quickly roughen the skin and nails.

SODA CRACKER: a "cracker" or light thin biscuit, made from a plain dough of flour and slightly salted water, leavened with soda and cream of tartar. See article on Biscuits.

SODA-FOUNTAINS. Within the last few years a number of large groceries have added soda-fountains and have found them very profitable in various ways in addition to the margin on the ice cream and soda sales—by gaining new store customers among people who at first merely dropped in for a "soda"; making the store a popular meeting-place among friends (all prospective customers), in the increased case and bottle sales of summer beverages, such as root-beer, etc.

But it is not good policy to install one unless you also furnish both the help and attention necessary to run it in proper style, for a soda-fountain proves an eye-sore and a general detriment unless so conducted as to present the appearance of absolute cleanliness. A sloppy fountain has the knack of immediately making a place look cheap and messy—it will attract flies to damage the exposed stock and mark up the canned and package goods, but it won't attract customers to purchase them! The counter should always be clean, polished and *dry*, and the syrup jars and all appurtenances invitingly bright to the eye—a general effect of dampness, stickiness, sourness or foustiness is disgusting to particular customers. This general spick-and-span condition must be supplemented by good syrups and cream if full success is to be attained.

As the purchase of a fountain represents frequently an investment of considerable amount, caution should be exercised in selection. The essential points are—(1) first-class mechanical construction; (2) thorough drainage; (3) attractive appearance; (4) good insulation to avoid waste of ice; (5) correct cooling plan so as to insure a plentiful supply of cold soda; (6) convenient arrangement for service; (7) jars, pumps, etc., that can be cleaned with minimum labor, and (8) heavy plating on plated parts—or the "new appearance" will speedily be lost.

SODA-WATER: water rendered effervescent by charging it with carbon-dioxide. It is so called because the gas originally employed was produced from bicarbonate of sodium (see Carbonated Waters).

SOFT FRUITS: a trade term including strawberries, raspberries, fresh currants, blackberries, rhubarb, etc.

SOJA BEAN. See article on Soy Bean.

SOLE: an English fish, highly prized for the delicacy of its flesh, which obtains its name from its resemblance in shape to the sole of a human foot. There are two principal varieties—the upper skin of one dark and rough, and of the other a pale dull

red. The former is considered the better. Both types are nearly white on the underbodies. The principal season is from November to February, but they are on sale to a limited extent all the year.

The only genuine sole is the imported, but other domestic fish, notably flounder, are retailed and eaten in its name. The *Lemon Sole* is a kind of flounder especially suitable for the purpose—its flesh is not as "woolly" as that of the common variety. The skin of the English sole can easily be torn from the flesh—a test that the American fish cannot pass.

SORGHUM: a grain which grows very much like broom-corn. It contains a high percentage of sucrose, and a few years ago it was hoped that it would prove an important commercial source of sugar. It was, however, found to offer many difficulties in crystallization and refining, and the project has since been almost abandoned. During 1889, 415,691 acres were planted to sorghum for sugar and syrup manufacture. Ten years later, the figures had fallen to 293,152 acres, and five years after that, to only 14,000 acres.

It has, though, proved an excellent stock-feed and is now largely so used.

SORREL: a vegetable used both for salads and as "greens." For the latter, it is especially good mixed with spinach. The leaves contain an important percentage of binoxolate of potash and have a pleasant acid taste. A decoction of them is sometimes employed as a febrifuge. The best known type is the Broad-leafed French, or Belleville. See also ROSELLE.

Broad-leafed French Sorrel

SOUJEE, or *Sujee*: an Anglo-Indian name for a kind of semolina or *Farina* (which see) used in bread making.

SOUPS: of many kinds are now canned and they have proved a great convenience to both the housewife and the cook, offering an agreeable diversity with no trouble of preparation and capable of being served at a few minutes' notice. There are also many extracts which require only the addition of water to serve as a good basis for soup. Serviceable, too, but in small demand, are the "dry" soups—packages of desiccated ingredients.

Soups may generally be classified under the headings of *Clear*—Bouillons and Consommés, and *Thick*—Creams or Purées, Bisques and Unstrained.

BOUILLON is an ordinary clear broth. The title is generally reserved for Beef Broth, unless otherwise stated, as *Clam Bouillon*, *Tomato Bouillon*, etc.

CONSOMMÉ signifies a clear soup made by boiling together a knuckle of veal, a shin of beef and a fowl—or their equivalents. It is now generally applied to the entire class of finer clear soups or very strong clarified broths of various kinds of meats—specialized according to the chief meat flavor, as *Beef Consommé*, *Chicken Consommé*, etc., or by special character additions, such as *Consommé Vermicelli*, *Consommé Julienne*, etc.

CREAM, or CRÈME, soup, is thick strained soup. *Purée* is a French culinary term with the same significance. Cream or Purée soups are made in great variety—as Cream, or Purée, of Celery—of Carrots—of Tomatoes, etc. Almost any canned meat

or vegetable, as Asparagus, Green Peas, etc., can be used for the purpose by the addition of cream.

Bisque is a Cream Soup conventionally made or finished with fish or shellfish, chiefly the latter—as *Bisque of Crayfish*, *Bisque of Crab*, etc. The word was originally applied only to a form of Pigeon Soup, of which crayfish was one of the characteristic ingredients or additions. In course of time, Pigeon Soup was relegated to the list of old-fashioned dishes, but the word "Bisque" survived and was continued in use, associated with crayfish cream soup as "Bisque of Crayfish." Later, it was applied to other shellfish cream soups and the tendency is to still further enlarge its scope, not only to include fish but also other cream soups for which it would seem to have no particular affinity.

Unstrained soups are thick soups such as Mutton Broth, Oxtail Soup, Vegetable Soup, etc.

Among the most popular examples of Canned Soups are: Asparagus, Beef, Bouillon, Celery, Chicken, Chicken Gumbo (Okra), Clam Broth or Bouillon, Clam Chowder, Consommés (Chicken, Vegetable, etc.), Mock Turtle, Mulligatawny, Mutton Broth, Oxtail, Pea, Petite Marmite, Pepper Pot, Printanier, Tomato, Green Turtle and Vegetable. The titles of the majority of these are self-explanatory. Of the others, *Bouillon* and *Consommé* are described in the preceding paragraphs of this article, and *Chowder*, *Gumbo*, *Julienne*, *Mock Turtle*, *Mulligatawny*, *Pepper Pot*, *Petite Marmite* and *Printanier* in their alphabetical positions.

SOUR SOP, or *Guanabana*: a fruit nearly akin to the Sweet Sop but larger—good examples weighing four or five pounds—and with a thick greenish skin, marked at regular intervals with occasional blunt spines, taking the place of the "pineapple" effect. The cottony white flesh is aromatic in flavor but rather tart. The most pleasing way of service is as a frozen dessert resembling ice cream—the flesh is passed through a colander, beaten well, strained, sweetened to taste and frozen. It is also variously preserved, one of its commercial forms of West Indian preparation consisting of the flesh canned in a thin syrup—being thus pleasing to the taste, but still retaining the objectionable cottony texture.

Sour Sop

SOY: a brown sauce, valuable to the commercial sauce manufacturer, made from the Soy Bean, a native of Southeastern Asia and widely grown in China and Japan. The beans are boiled, mixed with ground wheat or other grain, salt, etc., and allowed to ferment for a month or six weeks. The liquid is then strained off and clarified. Molasses is frequently added. In appearance, it resembles Worcestershire Sauce, of which it is an important ingredient. It should not be too salt nor too sweet, and, although thick and syrupy, should be clear. When shaken in a bottle or glass it should, if it is genuine, leave a bright yellow film on the glass. Being a very desirable article, it is often counterfeited.

SOY BEAN. Commercial and government circles both in Europe and this country are devoting increasing attention to the cultivation of the Soy Bean as a food product, as it contains a large percentage of protein and a fair amount of fat, thus resembling meat in general nutritive value. The cell-walls of the raw bean are very tough, but thorough cooking makes it readily digestible. Boiled with bacon and other fatty broths until soft and then seasoned, the result is a vegetable dish very pleasing to the average palate. If the beans are dry, a preliminary soaking to remove the skins is necessary.

Soy Bean

The Soy Bean is largely consumed in Japan, China and other parts of Asia as an adjunct to rice and other foods, taking the place of meat in the popular dietary. It is most popular in those countries in fermented form, the best known types being *Shoyu* or Soy Sauce; *Tofu,* a kind of cheese; *Miso,* Soy Bean "Milk"; *Yuba,* the evaporated product of "Miso," and *Matto,* a product obtained by simple fermentation of the boiled beans. The various degrees and styles of fermentation serve the double purpose of rendering the beans more easily digestible and producing new flavors, just as by the fermentation of milk and cream we produce the different flavors of cheese.

The plant is an annual, growing chiefly in bush form to varying heights of from two to four feet, with branching hairy stems, marked by stiff reddish hairs, slightly hairy leaves, pale lilac or violet flowers and hairy pods containing from two to five beans, from round to oval in shape and more or less flattened. There are a number of different varieties under the principal classifications of Black, Yellow, White and Brown, according to the color of the beans. Types of all these four classes are grown to some extent in Germany, Austria and Switzerland, and the first three also in this country, in North Carolina and other Southern States. Under favorable conditions a single plant may bear a hundred or more pods.

Because of the fact that the beans contain little if any starch, they have been recommended as a desirable food for diabetics, and Soy Bean Bread and Soy Bean Meal are prepared for that purpose in Paris. The dried beans are also used in Switzerland and elsewhere as a coffee substitute.

SPAGHETTI. See article on MACARONI.

SPANISH BAYONET: a southern plant belonging to the Yucca family. The fruit ripens in a cluster, following a beautiful flower stalk rising from the center of the plant. It has a thick, tender rind and seeds, and may be cooked in almost any way suitable for apples.

Spanish Bayonet

SPANISH MACKEREL: a fish allied to the Common Mackerel, but finer in flavor and retailing at a much higher price. It ranges from the West Indies to Maine and is, in consequence, in season all the year. It appears in the early spring in the south and off New York in July. The general weight is from one to three pounds, up to a maximum of nine pounds. The upper part of

the body is silvery dark-bluish and the under-part light colored or whitish. *See Color Page opposite* 504.

"SPANISH REDS": a general trade title for red Spanish wines, especially those of port style, as *Tarragona Port*.

SPANISH WINES. The Spanish wines most largely consumed in this country are SHERRIES (which see), but there is also a slight demand for *Malaga*, made from the Malaga grape, a soft spirituous wine with fine bouquet, varying in color from "white" to deep amber-red and both dry and sweet—generally the latter; *Alicante* and other types of MALMSEY and MUSCAT (which see); *Rancio*, red, both dry and sweet styles; *Tarragona Port* (see PORT), and *Sacra Teut*, a ruby wine which, because of its purity and sweetness, is used for sacramental purposes in Episcopal and Roman Catholic churches.

SPARKLING WINES. See articles on WINE, CHAMPAGNE, etc.

SPEARMINT. See general article on MINT.

SPECIALTIES. Under this head may be included any lines, whether or not capable of classification under Groceries proper, that are not carried by the majority of retail grocers. Fancy canned goods, choice fruits and preserves, candies, wines and liquors, cigars, etc., are suitable subjects for consideration. In some neighborhoods, perfumes and high grade toilet soaps may be advantageously added. All of these are dealt with in their alphabetical positions in this volume. If his surroundings warrant their addition and if he is able to give their handling and sale proper attention, without detracting from the service of his regular stock, the grocer can improve his trade greatly by the introduction of specialties—they will extend the number of his customers and increase and hold general interest in his establishment. The greatest care should though be taken that only articles of real merit are stocked (see HUMBUGS). Many special lines make excellent drawing cards if properly featured in the store and in window displays (see article on WINDOW DISPLAYS).

SPECK: the German word for *Bacon*, widely used among German descendants in Pennsylvania for salt pork or unsmoked bacon, as "cabbage with speck."

SPECULATION: on the part of a dealer consists usually in purchasing more than his requirements demand, or, in other words, more than is sufficient of any line of goods for the regular conduct of his business. Generally speaking, to the majority of tradesmen, speculation is an evil. Many fortunes of considerable magnitude have been made by it, but they are overshadowed by the vastly greater number that have been lost. Much more money is made, and at one tithe of the risk and anxiety, by legitimate, steady business. We do not say, never purchase more than your wants, but this we do say, and most emphatically—never purchase more than you can pay for without inconveniencing yourself in your regular business. The time, energy and capital which a man spends in speculation will, if directed to his store and the general improvement of his trade, nearly always be productive of infinitely better results. Make your store your "speculation," and the result will be highly satisfactory.

SPELT: a grain resembling wheat and grown for the same purposes in southwest Germany, Switzerland and parts of Spain. It was the principal cereal of Egypt and Greece in ancient times.

SPERM OIL: is procured from the sperm-whale (see WHALE OIL).

SPERMACETI: a white, waxy, unctuous substance obtained by filtration and treatment with potash lye, from the oily matter found in the head of the sperm-whale. Good grades come in fine, white, smooth and nearly transparent flakes, dry and friable but soft to the touch, with a flavor somewhat like butter and a faint tallow smell. It is used by pharmacists as the basis of ointments, etc. It was formerly employed in the manufacture of candles, in the laundry, etc., but for these purposes it has been generally superseded by the cheaper paraffin.

SPICES: may be described as aromatic vegetable substances used chiefly for the seasoning of food. They represent different portions of their respective plants—Ginger is the root-stock; Cinnamon is the bark; Cloves, Nutmeg, etc., represent the fruit, and Sage, Thyme and other herbs, the entire upper part of the plant. Their aroma and characteristic qualities are contained chiefly in their essential oils.

Tropical spices such as cinnamon, cloves, ginger, nutmeg and pepper—the first four shown on the *Color Page* opposite page 580 and the last-named opposite page 468—were, because of their great scarcity, even more highly regarded in olden times than they are now. They are frequently referred to in the Old Testament and are there generally classed with other things of known and considerable value—they were considered fit presents for royalty, and it is recorded that they were included in the tribute which other monarchs paid to Solomon. They were also indispensable ingredients in the sacred oil used in the Tabernacle. The wealthy Romans were especially lavish in their use, both in the preparation of food and burning them with the incense at the altars and in funeral rites.

In ancient times and through the Middle Ages, Arabia was popularly credited with being the home of all spice luxuries, but this was to a great extent due to the fact that it served as a market for spice merchants from the East India Islands, Ceylon in particular. Coming further down the centuries, we find that the trade occupies an important position in the history of our present civilization. For many years pepper was one of the chief items of commerce between India and Europe. Venice and Genoa are among the cities which waxed rich in great part on its traffic—and at times tribute was levied and rents were paid in pepper.

A darker chapter is that of cinnamon, the nutmeg and the clove, cloaking many deeds of blood-stained atrocity. The Portuguese and the Dutch for generations maintained their control of the supply by executing any but government employees attempting to engage in its export, by destroying plantations and accumulated stores—and on more than one occasion by massacring entire native populations to prevent them selling to other nations.

The dawn of latter-day enlightenment, the destruction of monopolistic control and scientific cultivation of the various spice plants, have brought about an abundance of all varieties at prices which make what was formerly a luxury for only kings and nobles an everyday possibility for even the poorest of those living in the twentieth century.

Modern commercialism for many years substituted extensive adulterations for old time barbarism—until quite recently a very large proportion of the "spices" marketed were mixed with a variety of other materials which robbed them of much of their strength and greatly impaired their characteristic flavors—but conditions in that respect have much improved, and both retailers and consumers can to-day, by exercising even a moderate amount of discrimination, obtain pure, high grade spices of every kind. This improvement has tended to restore public confidence and to stimulate a more general demand—an excellent result, as their proper use relieves the cookery of the average American home of the criticism of "sameness" and monotony of flavor.

Retailers will find it profitable to take advantage of this change in sentiment, by exercising special care in purchasing spices and devoting more space and time to displaying, and, where necessary, explaining them—there is a much better margin in handling them than in the majority of other grocery items. There is also a wide field for their use—in everyday preparation of meats and desserts, as well as for preserving and pickling, etc.

It would probably surprise many a grocer to be informed that tropical spices constituted the greater part of the stock of the originators of the business in which he is engaged, and that he is a modern development of the "Pepperer" or "Spicer" of the Middle Ages. A great deal of interesting matter on this and kindred topics will be found in the article on the GROCER.

All spices should be protected from contact with the air, by keeping in well corked bottles or other closed receptacles.

The principal spices of general modern consumption are Allspice or Pimento, Anise, Bay Leaves, Capers, Caraway, Cardamom, Cassia (see CINNAMON), Cayenne Pepper (see PEPPER), Celery Seed, Cinnamon, Cloves, Coriander, Dill, Fennel, Ginger, Horseradish, Mace, Marjoram, Mustard, Nutmeg, Paprika, Pepper, Saffron, Sage, Savory, Thyme and Turmeric (*see descriptive matter in alphabetical positions*). Several of these are more generally classified as Sweet Herbs (see HERBS), but they are all "spices" within the full meaning of the word and are so considered in government and analytical circles.

SPINACH: a vegetable, cultivated in many varieties, which is becoming increasingly popular both boiled as "greens" and in soups. When well cooked, it is about as health-giving an article as can be imagined.

The best varieties are the Broad-leafed, Savoy or Curly-leafed, Prickly-leafed and New Zealand. It is essential that only young leaves be purchased, as old leaves are coarse and not very palatable except after long and careful cooking. Much of that sold in Northern stores during the winter comes from the Southern States. Large quantities are also raised in hothouses.

The strong green of spinach is employed to color pickle-vinegar and for many other food purposes.

SPIRITS: alcoholic liquors secured by distillation, as BRANDY, GIN and WHISKY.

SPIRITS OF WINE: alcohol (which see) obtained by distillation of wine.

Four Principal Spices

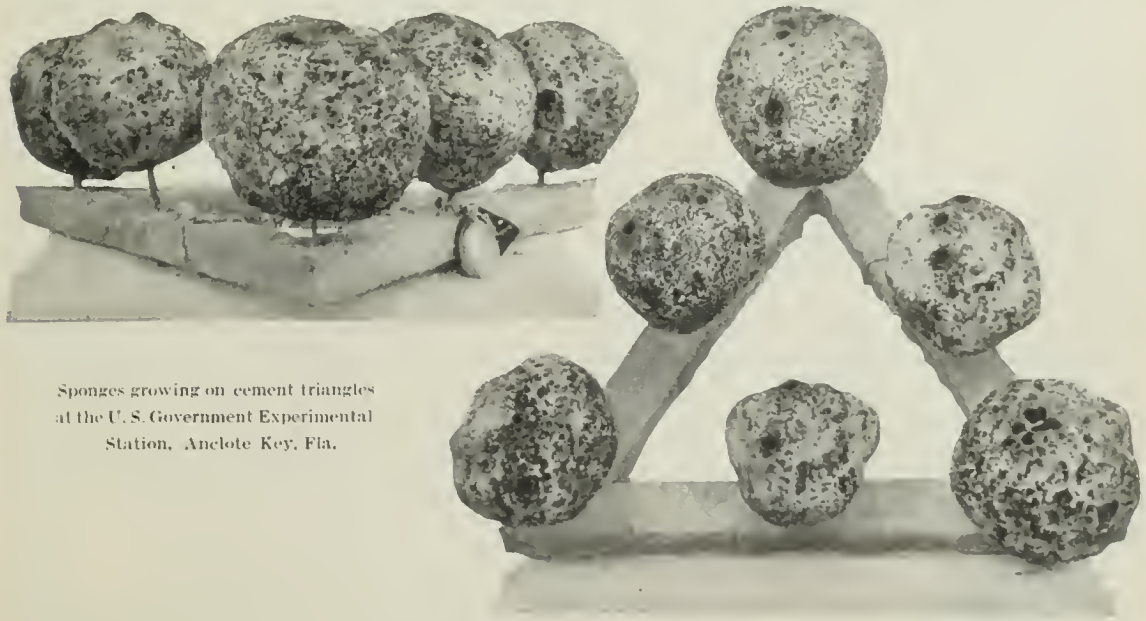
SPONGES: are popularly regarded as a kind of sea-plant, but in reality they are the skeletons of a low-type animal. They are reproduced by means of eggs, and the developed larvæ are partly clothed with small hairs which enable them to swim or drift around until they find suitable places for adhesion. When, however, they have once fastened themselves to rocks or other submerged objects, they must, with few exceptions, remain there during their entire existence, the pressure of the water being the chief factor in holding them in place.

The living commercial sponge is a solid looking mass, rather slimy in appearance, its exterior varying in color from light grey to nearly black, generally shading to lighter in the cavities. For sustenance, it sucks in the water through many small perforations, which pass it into a system of internal tubes, these distributing it into thousands of minute cells, which digest its microscopic animal or vegetable contents. The superfluous water is passed into drainage tubes and thence out of the large openings, the "eyes" or "craters," in the surface of the sponge.

The *Flesh* of the sponge is the soft jelly-like tissue of the tubes and cells, varying from transparent to deep-colored. The *Skeleton*, of the commercial varieties, is the interwoven mass of elastic, horny threads which constitutes the sponge of commerce. When cut, the interior flesh of a living Sheepswool Sponge resembles a much perforated piece of beef liver.

The large openings of the "skeleton" sponge familiar to the consumer, are present in the living sponge, but the "tufts" and the depressions between them, and the smaller holes, are modified in appearance by the delicate membrane covering the exterior and permitting entrance to the tubes by small perforations only. The variance in shape is the result of differences in the surrounding conditions, the direction of the water currents, etc.

Fine sponges are gathered by hand by divers, or by hooks on the ends of long poles. Coarser grades are dragged up by dredges. All types are exposed to the air for a short time after gathering and then thrown into pens or tanks of water to



Sponges growing on cement triangles at the U. S. Government Experimental Station, Anclote Key, Fla.

decay. When fully decomposed, they are squeezed or washed out to remove the membrane, skin and internal tissues and then set to dry. Next come sorting, trimming, resorting, etc. The details of the processes vary in different localities.

The market value is determined by the comparative fineness, closeness and elasticity. The most expensive are those known as the Turkey Cup and Mediterranean, or Turkey, Toilet—the best grades being obtained along the eastern shores of the Mediterranean, especially off the Syrian Coast. They are small in size but very fine, silky and resilient. Another well-known type is the "Elephant's Ear," so-called because of its peculiar flat shape, which fits into the hand almost like a face-rag.

Cheaper Toilet Sponges are generally bleached West Indian Toilet Sponges or small sizes of regular Bath Sponges.

The Turkey, or Mediterranean, Bath Sponge and the American Sheepswool, or Wool, are the most widely used of good Bath Sponges. The best qualities of the Sheepswool come from the West Florida shore of the Gulf of Mexico.

Because of their darker color, the Sheepswool are generally bleached. The process frequently shortens their life, but it has become popular, as it softens them and gives them a clean, bright appearance.

The next in grade of the American product for bath purposes is the Yellow Sponge, which is very cheap in comparison with the imported variety, yet is fairly satisfactory in quality.

Being a natural product, sponges vary greatly in appearance. Those of especially good shape and style bring much higher prices than others of the same quality but of less choice appearance. For ordinary family purposes, an "off shape" sponge is just as good as an expensive selected one of the same variety.

The Turkey Cup, Mediterranean Toilet and American Sheepswool and Yellow are shown in the page illustration opposite.

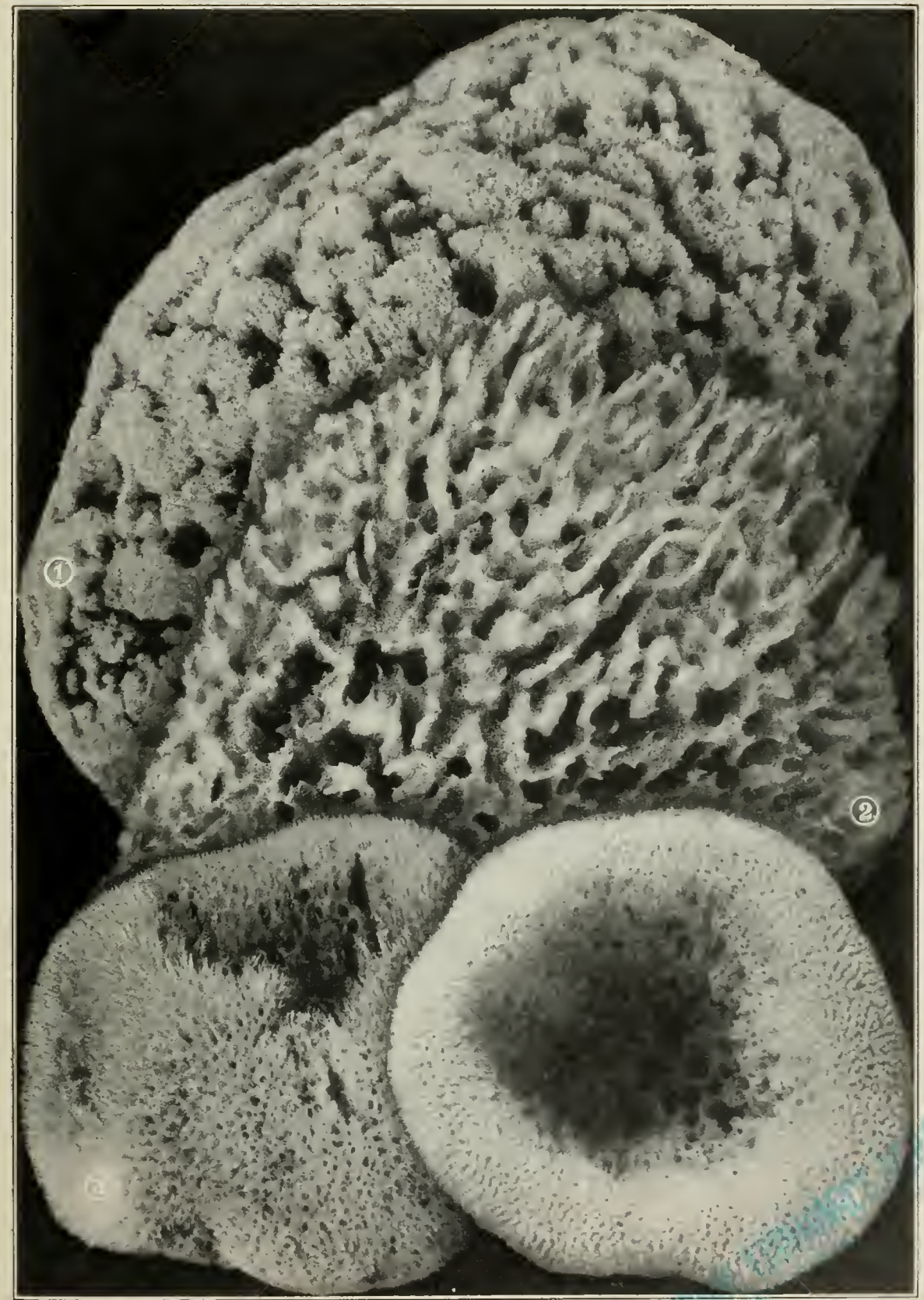
Sponges that have deteriorated in storage can be restored by immersing in a mixture of one part glycerine to eight parts of water, then squeezing out and drying. Where this process is not required, they can be improved by similar immersion in salt and water, or a weak solution of soda.

In popular opinion, the chief use of the sponge is for toilet and bath purposes. These, however, account for only a small part of the crop, the bulk being employed in the arts and industries. There is a steadily increasing exportation of the American product to Europe for commercial purposes.

In common with other civilized governments, the United States is devoting a share of its attention to artificial propagation, as the increasing demand has for some years been confronted with a diminishing supply. After many experiments it has been found that the best results are attained by "planting" small pieces of cut sponges attached to cement disks. The illustrations on page 583 show experimental plants from cuttings, growing on cement triangles, at Anclote Key, Fla.

SPOTFISH: a deep-bodied Southern fish resembling a bass, which takes its name from a well marked spot on either tail or shoulder. It generally averages about nine inches in length, and is continuously in season except during June and July. The flesh is a delicate white.

SPRAT: a small fish of the herring type, caught in abundance in many parts of Europe, and extensively consumed there both fresh and smoked. There is a limited



(1) Florida Sheepswool (2) Florida Yellow
(3) Mediterranean Toilet (4) Turkey Cup

FOUR REPRESENTATIVE SPONGES

sale of Dried Sprats in this country—under their own name, in addition to what we eat under other titles!

Kilkies, exported chiefly from Baltic ports, are cured sprats flavored with spices.

SPRUCE BEER: a slightly fermented beverage, of the same general character as root-beer (which see), flavored with spruce essence and various spices.

SQUAB: a young pigeon. There is a large and constantly increasing demand for squabs, particularly in the large cities. The birds are at their best when about four weeks old, *i. e.*, after they have grown plump and before they have left the nest to fly—for, unlike chicks, they are quite helpless when young. At that time their flesh is milky and very delicate—after they have left the nest, it rapidly loses the special squab characteristics. Good specimens will, at the age mentioned, average eight pounds or more to the dozen.

Squabs, three weeks old

The best known varieties are the young of the Homer, Dragoon, Carneaux and Runt pigeons. The last named is the largest of all, but is not so frequently bred as it is not as prolific as the others.

Size, plumpness and light-colored flesh are the points to be observed in buying squabs. They should be very carefully handled, both in the store and wagon, as their flesh damages easily. They were formerly obtainable only in summer and they are still most plentiful then, but artificial mating now supplies them to the market all the year.

SQUASH: a term applied to the edible fruit of many varieties of gourds, found in divers sizes, shapes and styles. The most famous of all is the PUMPKIN (which see). The others are classified as Summer and Winter squashes and are used as a vegetable—stewed, baked and fried—as a substitute for pumpkin in pies, etc.

Summer squashes are usually consumed green, the seeds cooked with the flesh. They arrive in the market about the middle of June. Winter squashes are generally larger in size and are eaten ripe, the seeds being removed before cooking. They are serviceable through the winter and can often be held until the summer crop is ready, if thoroughly ripe, taken before the frost has touched them and stored, preferably in tiers, each one free, in a moderately warm, dry place.

Squashes of all shapes and sizes

Among well known types are the *Cymling*, or "Patty-pan," or "Scalloped," or "White (or Yellow) Bush," white and yellow fleshed, the latter known also as *Custard*

TROPICAL FRUITS

Squash; Crookneck, white and yellow; *Hubbard,* from dark green to orange and moderately smooth to very rough and warty, and *Marrow,* yellow.

The VEGETABLE MARROW (which see) is an English type of squash.

SQUIRREL: a small rodent with slender body and bushy tail, of familiar appearance and habits, found wild in every part of the world except Oceania. By residents of the larger cities it is best known as the protected, semi-domesticated pet of public and private parks, but it is also esteemed by many people as among the most desirable of small game animals, all varieties—black, red, grey, etc.—being equally acceptable.

STAPLE: a term now commercially applied to the most important articles of merchandise. As formerly employed, it had two distinct and different meanings—(1) a commercial monopoly by royal grant, and (2) a district with market rights. Later, it became a name for a wholesaler, as a "wool-stapler."

STAR APPLE: a tropical American fruit of the Sapodilla family, about the size of an apple, with skin of green to dark purple (*see Color Page opposite* 586). When cut crosswise, it presents an exceedingly attractive appearance—the pulp, of "crushed raspberry and cream" color, marked by a central star of translucent "jelly," holding several large, flat, brown seeds. The flavor is rather peculiar, but it lends itself to many forms of preparation.

STARCH: is one of the most important and widely diffused of the proximate principles of the vegetable kingdom, being found in nearly all plants, serving for them the purpose of reserve food. It is formed from the water, obtained by the roots from the soil, and the carbon-dioxide drawn from the air, the combination being effected by the action of the sun on the chlorophyll of the leaves and stems.

In spite of its presence in a multitude of seeds, fruits, roots, etc., frequently in large percentage and sometimes in comparatively pure state, there are only a few plants furnishing it in sufficiently large quantity and growing in sufficient abundance to be profitably utilized for its commercial production. The best known of these are Corn, Wheat, Rice and Potatoes. After them come MANIOC (which see), or Cassava, for both edible and industrial purposes, and Sago for the former only. The greater part of the American output is obtained from corn; that of Europe from the potato.

There are two principal grades of starch, (1) that used for food and (2) that employed for manufacturing and industrial purposes. The latter may be roughly subdivided into (a) Laundry Starch, (b) starch for the finer manufacturing purposes, and (c) starch for calico manufacture, etc.

Food starches include such items as Arrowroot, Cornstarch, Sago and Tapioca (all described under their special headings).

In this country, potato starch is considered especially suitable for sizing yarns and for some kinds of silk and wool printing, but in the textile industries generally, rice and wheat starch are preferred to the potato product because of their greater stiffening powers. Corn starch has still greater stiffening powers and is consequently the most highly esteemed for many purposes, particularly in the laundry business, because of the white, smooth, glossy finish which it gives.

Pure starch is a glistening white powder with a characteristic feeling when rubbed between the fingers. It is insoluble in alcohol, ether and cold water.

Making Starch from Corn.

The corn grain, after shelling, clearing and going through Magnetic Separators, which draw out any nails or metal fragments, is steeped in vats of warm antisepticized water for about twelve hours and is then roughly crushed in order to facilitate the separation of the hull, germ and endosperm—the last-named, the body of the corn, containing the starch, together with a certain amount of gluten, etc. In the separator, the germs (which contain the oil) rise to the surface and the hulls sink. Both being removed for utilization in various forms (see table of products in the general article on CORN), the endosperms are ready for the extraction of the starch content.

First comes treatment with sulphur dioxide or a similar antiseptic, then grinding and agitating in "shakers." The resultant starch-milk is allowed to settle and the crude starch obtained passes to tanks where it is washed in, and mixed with, alkaline water and is then run onto the "tables" where the starch is deposited. The tables, in numerous sections, each one hundred or more feet long, are set at a slight slope and are divided into canals, eighteen inches in width. The starch goes next to the "breakers," where it is again mixed with water, and thence to the centrifugal washers, refiners, etc., finally arriving in the muslin-lined drying boxes—constructed in sets, each box five to six feet in length and seven inches deep, with a perforated bottom. The boxes are connected with a vacuum chamber which rapidly extracts the water. The blocks thus obtained are cut into 7-inch cubes, kiln-dried and broken into various sizes.

Making Starch from Potatoes.

The potatoes are first carefully washed and put through machines which remove the stones, gravel and dirt. They are then ground by means of other machines and the resultant pulp is sieved under a continuous flow of water, which washes the greater part of the starch through, leaving a residue of fibrous matter, or pomace—which is in this country frequently discarded as of little value, the starch content being comparatively small, but in Germany is generally pressed for hog-feed.

The starch-laden liquid from the sieves is allowed to settle in vats, and the crude starch thus secured is put through several washing, purifying and decolorizing processes, going then to the dry-houses, where it is spread on steam-heated frames. This preliminary drying is succeeded by other processes of water-extraction by means of cloths, etc., or by air or vacuum pumps. Finally come refining, separating, bleaching, etc.

In some factories, the potatoes are sliced, steeped in water and allowed to ferment to facilitate the extraction of the starch. The starch-milk is also frequently run along sloping gutters, on which it deposits the starch.

Starch from Wheat.

There are several processes used for the extraction of starch from wheat. By the older methods, the grain is first steeped in water until sufficiently swollen, then, either still whole or bruised by passing through rollers, is placed in fermenting vats.

When the fermentation has been completed, the mass is, in large factories, placed in washing drums from which the starch-milk runs into tanks. When the crude starch has settled, the water is run off and the starch is mixed with clear water and passed through various sieves and then washed, refined, etc.

The fermentation greatly reduces the value of the residue, as the sour gluten is fit only for hog feed, but the process is still largely employed because it is the easiest method of loosening the especially sticky gluten of wheat.

Among the numerous methods of wheat-starch manufacture without fermentation, are several similar to that just described, except that the separation is made while the steeped grain is fresh, the sweet gluten residue having considerable commercial value.

By the most modern methods, the wheat flour is first formed into a dough or paste. If the former, it is then separated into small pieces and worked backwards and forwards by machinery over a fine sieve and under a stream of water, the starch being carried off in milk form and a glutenous mass being left. If the paste form is employed, the starch is extracted by washing without kneading. The most promising of all fresh-grain methods is by means of centrifugal machines, the action giving almost pure starch by separation from thin flour paste.

Starch from Rice.

Rice is of all grains the richest in starch, but it is in such form that the fresh grain processes will not extract it. Instead, the rice is first steeped in an alkaline solution, then washed and ground fine and again passed into the alkaline solution, where it remains with frequent stirring for twenty-four hours. This is followed by a rest of seventy hours, during which a partial separation is effected, the gluten having risen to the surface of the liquid and the fibrous portion of the grain and the starch having fallen to the bottom. The gluten and water are drawn off and the fibre and starch deposit stirred, then mixed and washed with an abundance of water and again allowed to stand. This second settling leaves the fibrous portion at the bottom of the tanks with a second layer of crude starch. The removal of the starch is followed by various purifying, washing, decolorizing and drying processes as for other starches.

STARCH GLOSS, STARCH POLISH, Etc.: are preparations designed to give a glossy finish to starched goods. They are variously composed, frequently containing a number of ingredients. *Starch Gloss* usually consists of common laundry starch with the addition of a certain quantity of borax and stearin or paraffin wax. *Starch Polish* is generally based chiefly on paraffin wax or lard.

STARCH SUGAR. See articles on CORN SUGAR and GLUCOSE.

STEARIN—Commercial: consists of the solid acids, chiefly palmitic and stearic, of animal fat. It is a hard, dry, crystalline substance of pearly color. Its presence in, or absence from, rendered beef fat is the principal difference between "tallow" and the edible "oleo" oil. It is extensively used in the manufacture of CANDLES (which see).

STERILIZED MILK: is milk which has been subjected to heat sufficient to destroy all micro-organisms. See MILK.

STERLET: a small variety of STURGEON (which see).

STEWING. See sub-head in article on COOKERY.

STILTON CHEESE: the richest of distinctively English types. See CHEESE.

STIR-ABOUT: a colloquial Irish term for thick gruel formed of mixed oatmeal and cornmeal, or either separately, boiled with milk, whey, broth or water, etc. It corresponds to the "brose" of the Scotch.

ST. JOHN'S BREAD, or **Carob Bean,** or **Locust Bean** (*see Color Page opposite*) : the pod of the Carob Tree, which flourishes in Palestine and all along the Mediterranean. The pulp is sweetish in flavor, succulent when fresh, but quite hard when dry. The title "locust bean" is probably derived from its similarity to the pod of the domestic Locust Tree. A resultant singular mixture of ideas leads many to suppose that the food in the Wilderness was not grasshoppers or "locusts," but locust beans. They are actually the husks with which the prodigal son would fain have filled himself, and which he was feeding to the swine—the original text of the scriptures reading "carob" for the "husks" in our translation. They are extensively imported into England as food for cattle, but are only sold in this country as a curious fruit for little prodigals who are generally very ignorant of their history.

STOCK—*For Soup.* As a culinary term, the word "stock" signifies a strong soup or broth which serves as the foundation of most soups, sauces, etc., in all professional and many home kitchens. It is made variously of meats, vegetables and other appropriate items. Lean meats only should be used and a fair proportion of bones is essential, as these supply the gelatinous ingredient which acts as a natural thickening. The trimmings of roast and baked meats are especially desirable additions to the stock-pot because of the rich, meaty flavor they possess.

STOCK-FISH: is, properly speaking, fish of the cod tribe dried in the air without salting, but the term is generally applied to the dry-cured fish irrespective of the method of preservation.

STOLEN GOODS. In the majority of cases, the purchaser of stolen goods has no better title or right to them than the thief. Money and negotiable instruments are, however, generally the inviolable property of the person who has received them in exchange for proper value and in good faith, even if from the hands of a thief. The reason for this exception is that, otherwise, intolerable risks would be attached to every business transaction.

STONE FRUITS: the popular designation for all fruits, such as plums, etc., which have a fleshy rind and a bony "putamen" or stone.

STOUT, or **Porter,** or **Brown Stout:** a fermented beverage made of malted barley or other grain, yeast, hops and water. The name *Stout* was first applied to a heavier variety of *Porter*, extensively brewed in London and Dublin, but present custom tends to calling all Porters, except the very lightest, by that name.

Porter was originated in London in 1722. Previous to that date, Ale, Beer and "two-penny" constituted the stock-in-trade of the London publican, and were drunk either singly or together, under the names of "half-and-half" or "three threads," drawn from two or three different casks, as the case might demand. The inconvenience and trouble thus incurred, led to the invention of a beer possessing the flavor of the mixed liquors, and the new beverage speedily obtained great favor among the poorer classes. It was at first called "entire" or "entire butt," on account of its being drawn from one cask only, but it afterwards acquired the now familiar name of Porter, because of its general consumption among porters and laborers. The word "entire" is still frequently met with on the sign-boards of taverns about London. Later on, Porter or

ST. JOHN'S BREAD (Carob Bean)—flowering branch and fruit
(green and dried)

"Stout" achieved high distinction and recognition as a desirable malt beverage and became a favorite tonic for invalids and convalescents.

The characteristics of pure and wholesome Porter, or Stout, are its dark-brown color and its peculiar bitter and slightly burnt taste, due either to its being brewed from "high-dried" malt, or to the roasted malt added if "pale" or "amber" malt is the chief component.

The heavier Stouts are "vatted" and "stored" until they reach maturity, frequently in high grade breweries for more than a year before being sent out to the retailer. Milder Stouts, or Porters, are held for only a few months, and light or draught Porter often for only six or eight weeks.

The general trend of popular taste during the last quarter century has been towards the milder malt beverages, but this has not affected the consumption of the best known brews of Stout, either domestic or imported.

Stout should be stored in a cool place, not below 44° nor above 50° Fahr.

STOVE POLISH: is based on Ceylon plumbago or graphite. The old-fashioned sticks or cakes have been superseded by pastes and liquids which require little or no rubbing to produce the desired shine.

STRAWBERRIES. The Strawberry is a fruit native to both North and South America, greatly improved by cultivation and now grown in a number of choice varieties. The most popular types are developments of the Pine or "Chili" strawberry, indigenous to North America but so styled because it was first introduced into Europe from Chile.

Strawberries are now grown in nearly every state. Especially large crops are raised in New Jersey, New York, Delaware, Illinois, Michigan, Minnesota, Florida and California.

On account of the improved means of transportation, the season in the New York market, formerly limited to about three weeks, now extends over four months at moderate prices—and all the year for those who are willing to pay higher rates. The earliest supplies come from Florida, and the latest from New York and some of the New England States and Canada. Great quantities are canned and otherwise preserved both for domestic use and exportation.

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Irrigating a strawberry field, Hood River Valley, Oregon

STRAWBERRY PEAR: the fruit of *Cereus Triangularius*, of the Torch Cactus genus. It is bright red in color and somewhat pear-shaped, the pulp slightly acid and

suggesting the strawberry in flavor. In addition to its consumption fresh, it is an important ingredient of the Pepper-Pot of the West Indies.

The "Torch" cacti derive the title from their long, tubular flowers, which are often of striking beauty. The plants themselves vary greatly in type, from some which are of the climbing order, to the *Cereus Giganteus*, which frequently consists of a single, straight, tall trunk one to two feet in diameter and from fifty to sixty feet high. The fruit of the Giganteus, gathered from the bigger plants by means of long poles, is oval in form and two or three inches in length, with green outer skin and crimson pulp. It is highly esteemed both raw and preserved. The *Cereus Pectinatus* is a variety with edible stems, which are cooked as a vegetable after removing the spines.

STRAWBERRY TOMATO. See matter following title of GROUND CHERRY.

STRING BEANS. See general article on BEANS.

STUFFING: a mixture of bread crumbs, etc., with seasoning, meat, etc., used in "stuffing" poultry, and some other meats, before cooking.

STURGEON: a large fish esteemed both for its flesh and its roe, known as "caviar," found in different sizes and varieties in various parts of the world. The principal American types, in season from June 1 to the middle of October, are the *Sharp-nosed* and the *Short-nosed*, both from six to eight feet in length, found on the Atlantic Coast; the *Lake Sturgeon* found in the Great Lakes and Mississippi Valley rivers, averaging five feet in length, and the *White Sturgeon* of the Pacific Coast, measuring from eight to ten feet.

The largest and finest of the species is the *Beluga*, or Huso, or Hausen, or "Great White Sturgeon," of the Black and Caspian Seas and their rivers. It furnishes the best grades of CAVIAR (which see).

PHOTO BY RUSSIAN CAVIAR CO.

A Beluga (the large fish) and a Sterlet

The *Common Sturgeon* of Europe corresponds in average size, etc., to our Atlantic Coast varieties. Its back is marked by long, bony scales, interspersed with patches of naked skin or smaller scales, in color varying from dull blue to yellowish grey, shading to whitish on the belly.

The smallest variety is the *Sterlet*, which seldom exceeds three feet in length. It has a long, narrow snout, upper skin of dark grey and whitish belly.

In Europe, sturgeon meat is eaten both fresh, generally stewed, and smoked, the latter known as "balyk." In America, the chief consumption is of the smoked product, which is sold principally from October to April.

In England, the sturgeon was at one time known as the "royal fish" and its consumption was confined to the king's table and those individuals or cities holding the royal permission to eat it.

ISINGLASS (which see) is obtained from the swim-bladder of the sturgeon.

SUCCORY: a colloquial name for the salad plant CHICORY (which see).

SUCCOTASH: a stew of green corn and lima beans, now a popular canned goods item. Both the principle of the dish and its name are borrowed from the native Indians. The Puritan writers, who first described this dish as being "seethed like beanes," spelled its Indian name *Sukquttahhash.*

SUET: a term applied to the fat from the loin and kidney regions of beef and mutton carcases, etc. It is used in cookery and tallow manufacture and for numerous other purposes.

SUGAR. Until the middle of the nineteenth century, the world relied almost entirely on the sugar-cane for sugar. By 1860, the manufacture of beet sugar had begun to attain commercial importance and it continued to increase thereafter so rapidly and to such an extent that the cane plantations of the West Indies and other tropical countries were in hundreds of cases reduced to a condition that verged closely on ruin. By 1900, the civilized world—omitting China and India, which, though large producers, export only unimportant quantities—was consuming two pounds of beet to one pound of cane sugar.

The pendulum has since swung a little the other way. The repeal of the beet-sugar bounties put competition on a more even basis, and the improved conditions

A Sugar-cane plantation, Hawaii—note the pipe system for irrigation

in Cuba, Porto Rico, Hawaii and the Philippines have very largely increased the output of cane sugar. The world's sugar production now averages between fourteen and fifteen million tons annually, of which a little more than half is cane sugar.

In the United States, popular sentiment tends to favor cane sugar in the abstract, but in actual practice the consumer cannot tell one from the other when properly refined—for there is no difference, either apparent or by analysis, in flavor, appearance or composition. As a result of the crude processing of the first beet sugar manufactured here, some prejudice still exists against its use for canning or preserving, but this is now entirely unwarranted.

Commercial interests and conditions have made the United States the greatest cane-sugar importer. The country consumes the entire home beet-sugar output—several states, including Colorado, California, Michigan, Utah, Idaho and Wisconsin, producing large quantities of excellent quality—but 90% to 98% of our importations are of the cane product.

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Irrigating plains near Santa Clara, Peru, and planting sugar-cane

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Cutting Sugar cane, near Marinao, Cuba

The Sugar Cane—Its History and Cultivation.

The manufacture of sugar from the sugar-cane probably antedates all authenticated history—reference is found to it even in the Sanskrit of Ancient India. Its present title is derived from the Sanskrit, *Carkara,* modified by its course through various other languages—the Prakrit *Sakkara,* then the Persian *Shakar* and the Arabic *Sakkar,* the Greek *Sakchar,* the Latin *Succarum* and the French *Sucre*—of which last-mentioned the Anglo-Saxon "sugar" is an easily understood change to better suit the English tongue.

The cane was introduced into Europe from the East by the Saracens soon after their conquests in the ninth century, and

SUGAR CANE

it is stated by Venetian historians that by the twelfth century their countrymen were importing sugar from Sicily at a cheaper rate than they could obtain it from Egypt, where it was then most extensively made.

The first plantations in Spain were at Valencia, the industry extending thence to other Spanish provinces and to Portugal, Madeira and the Canary Islands about the beginning of the fifteenth century. From Gomera, one of the Canaries, the cane was introduced into the West Indies by Columbus in his second voyage to America in 1493. By 1518, the Spaniards were operating twenty-eight plantations in San Domingo and an abundance of sugar was manufactured, the island for a long period furnishing the bulk of the European supply. Barbados, the oldest English settlement in the West Indies, began to export sugar in 1646, and as far back as the year 1676 the trade required ships of 450 tons burden.

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Harvesting Sugar-cane, Santa Clara, Peru

The sugar-cane is to-day cultivated in every tropical and semi-tropical country. There are several varieties, but that known as "Otaheite" is the most productive—the cane being the juiciest and sweetest. The type grown on the Malacca section of the Malay Peninsula is the largest.

Sugar-cane is usually raised by the planting of slips, or buds, and grows to a height of from six to ten feet, in some sections to fifteen feet, with a diameter of from one to two inches. A field of it resembles in general appearance a flourishing field of Indian corn prior to heading.

The cane is generally ripe for harvest at from twelve to sixteen months' growth. It is cut close to the ground just before its flowering time, being then heaviest in

The central *Conchita* of a Cuban sugar plantation—receiving a train of cars loaded with sugar-cane

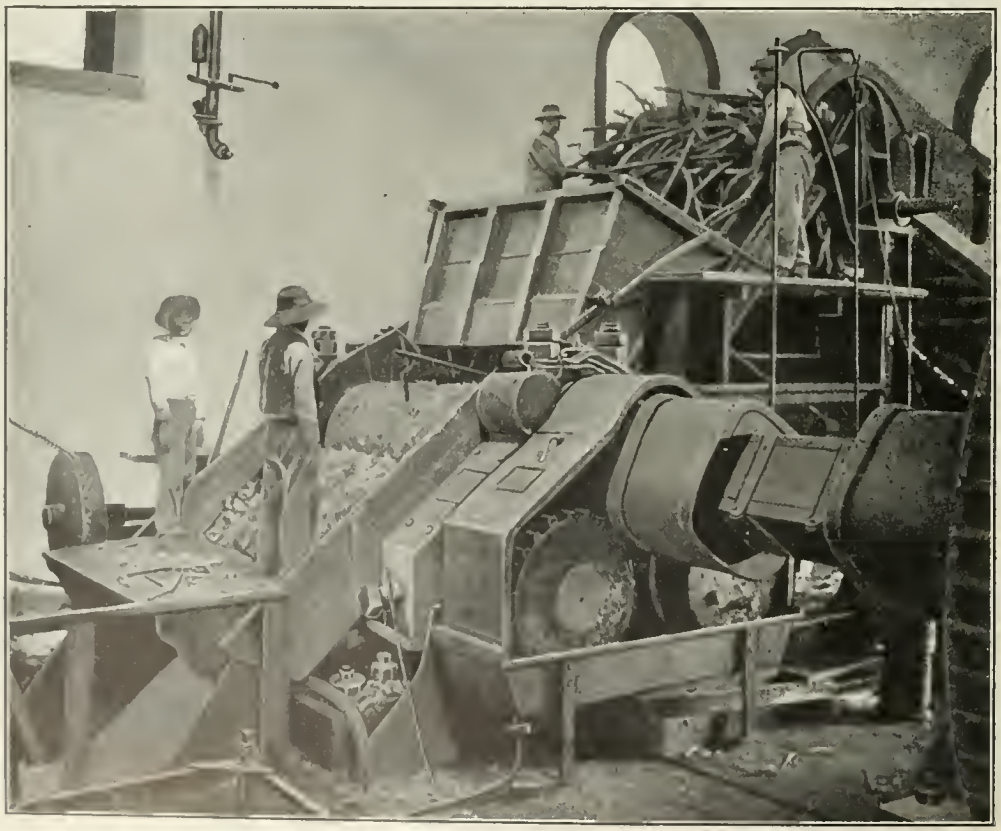
juice. The stubble develops new cane, the plants thus continuing, if so permitted, for several years. As however they gradually become weaker, it is customary to plow the stubble out after the second, third or fourth cutting—according to the strength of the soil—and to plant new slips.

The tops are sliced off the cane immediately after cutting and the leaves stripped, only the denuded stalks being transported to the mills. An average analysis of high grade stalks in this condition shows about 72% water, 18% sugar and 10% woody and vegetable matter.

The Manufacture of Raw Sugar and Sugar Refining.

Two different processes are in use for extracting cane juice—"milling" and "diffusion." The former is the "old" way, but it is still the one most generally employed, except in a few localities particularly suited to the diffusion method. "Diffusion" is used exclusively in treatment of the sugar-beet.

By the *Milling Process*, the stalks are unloaded from cars or wagons in huge bundles, often weighing five tons or more, into a "hopper," or onto a "carrier," which transports them to a "shredding" machine which tears the cane to shreds, or a "crusher" which crushes the hard rinds. They go next to the roller mills. The first mill extracts probably 60% of the juice. The "bagasse," as the crushed stalks are called, is then sprayed with water and put through a second, and again, after maceration or saturation, through a third mill—after which the stalks are consumed as fuel in furnaces specially designed to utilize them.



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Crushing Sugar-cane—a Roller Mill in Santa Clara, Peru

Bagging Sugar in a Cuban mill

The *Diffusion Process* recognizes the fact that in both cane and beet sugar juice there are two distinct substances—one that crystallizes and becomes sugar, and another that is gummy and will not crystallize. Crushing the cane in the mill extracts both together and the entire product must be treated and separated afterwards. Diffusion takes out little except crystallizable juice, thus obtaining a liquid that gives a maximum of sugar and a minimum of syrup.

For the Diffusion process, the cane-stalks are sliced thin by cutting machines. The beets may either be similarly sliced, or crushed into pulp. The "chips" or pulp go to a series of large tanks called "diffusers" or "cells," where steam or water saturation extracts the sucrose, the liquid being forced from one tank to the other, from those containing the partially exhausted chips to those filled with fresh chips.

The juice obtained by either process is of a sweetish taste and the appearance of sweet cider. It is pumped into tanks called "defecators," where it is first treated with milk of lime and carbon-dioxide, to remove impurities. It then commonly undergoes two or three other purifying processes, by evaporation, through filters, etc., before it is ready for the multiple vacuum boilers, where it is condensed to syrup, and the vacuum pans, where it forms into crystals

Next comes the separation of whatever proportion of uncrystallizable syrup is mixed with the crystals. This is now generally accomplished by centrifugal machines —a wide-sided, cylinder-shaped basket of fine mesh is revolved at high speed inside an iron casing, and the syrup is ejected by the action into the casing, whence it drains into a receiver. The "cured" sugar left is known as *Centrifugal*, or "Raw," sugar, or locally as "Brown Sugar." The syrup of the cane product is shipped as Molasses. When the centrifugal process is not used, the Raw Sugar is known as *Muscovado*.

Molasses Sugar is that obtained by further boiling of the molasses. The uncrystallized residue of this process is known as "Black-strap." It is frequently marketed as "molasses," but is an inferior article.

Practically all of the sugar imported into the United States—whether beet sugar from Europe or cane sugar from Cuba, the Dutch East

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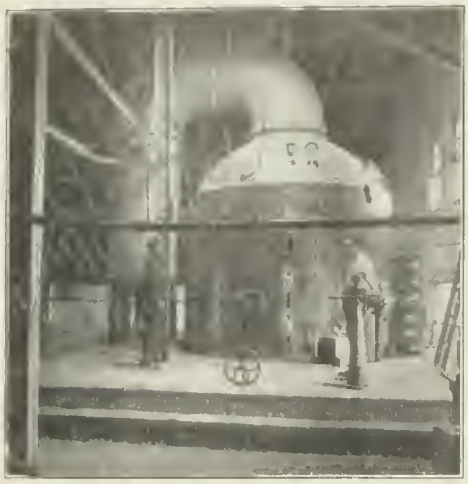
Crystallizers to concentrate the sugar juice

Indies or Hawaii (the three chief sources), or elsewhere, comes in as Raw Sugar to be refined here, being graded in the custom-house according to its response to the polariscope test (see POLARISCOPE). In refining, it is melted, passed through cloth filters to remove impurities and then through animal-charcoal filters to abstract all coloring matter. The clear syrup thus obtained is next boiled in a series of vacuum pans to crystallization. At this point, the process varies according to the market size of the sugar to be produced. For *Granulated* or *Powdered* sugar comes a further turbining, etc., and grinding to the desired size. *Confectioner's Sugar* is powdered sugar ground especially fine. For *Cut* or *Tablet*, or "Lump," sugar, the melted product is run into frames divided into compartments about an inch wide, the frames after cooling being placed in turbines, where brisk revolving brings out the "first" syrup. A cleansing liquid is then added and further prolonged revolving brings out the "last" syrup. Next comes the drying in the ovens and, finally, the bars are cut or broken by special machinery into the desired size. The syrup yielded in these processes is again melted and further refined into sugar.



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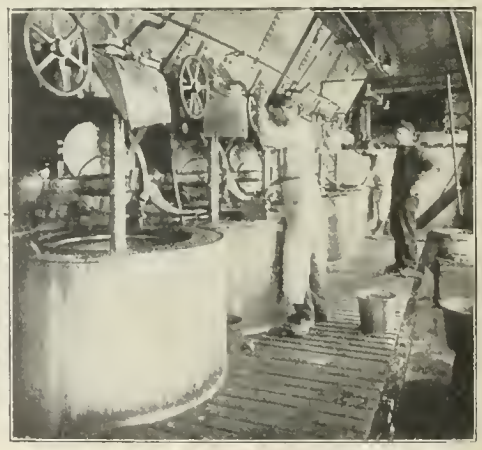
Vacuum Pan for final Crystallizing

The refining of beet and cane sugar is identical in methods, but beet sugar is never sold "raw" as its unpleasant native twang is only dispelled by complete refining —whereas good raw cane sugar (the "second" or "yellow") has so delightful a flavor that large quantities are sold without any treatment other than sieving and grading. One of the best known trade varieties is the light, large crystal kind styled DEMERARA SUGAR (which see).

Cane molasses and the final uncrystallizable residue of cane-sugar refining are also consumed to the last ounce (see articles on MOLASSES and SYRUP).

It should be understood that the foregoing is but a superficial description of the art of sugar-making and refining. In actual practice, much experience is necessary to produce the best results—the supervision of each process, especially those of crystallization, calling for high ability.

The U. S. Department of Agriculture defines *Sugar* as "the product chemically known as sucrose (saccharose), chiefly obtained from the sugar-cane, sugar-beet, maple or palm"; *Standard Sugar* as "white sugar containing at least 99.5% of sucrose"; *Granulated Loaf, Cut, Milled* and *Powdered* sugars as "different forms of Standard Sugars," and *Massecuite, Melada, Mush-sugar* and *Concrete* as "products obtained by evaporating the purified juice of a sugar-producing plant, or a solution of sugar, to a solid or semi-solid consistence in which the sugar exists chiefly in a crystalline state."



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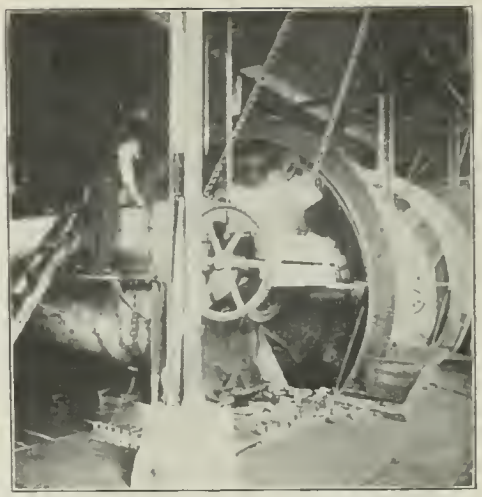
Centrifugal machines, to separate the syrup from the sugar crystals

Beet Sugar.



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Washing the Beets with revolving brushes

The discovery of the value of the beet as a sugar producer is attributed to Margraff, a German scientist, in 1747. He was not, however, able to devise a commercially successful method of extracting the sugar and little more was heard of the idea until fifty-two years later, when Karl Archard, one of his pupils, submitted a method of extraction to the Institute of France.

The Institute appointed a committee to investigate the matter and reported favorably on it, with some reservations as to the cost of manufacture. The result was the starting of the now gigantic beet-sugar industry, for within the ten years following several small factories were erected and put into operation.

A great impetus was given in 1810, when Napoleon I offered a prize of a million francs, or $200,000, for the best method of beet-sugar making, and further encouraged home cultivation and manufacture by large bounties. Increased growth and greatly improved methods resulted, but it was many years before its manufacture was brought to the point of equalling cane sugar in quality and appearance—for a long time it held a disagreeably pronounced flavor and was in other respects inferior.

Though the industry was destined to grow to such proportions, it is interesting to note that not even the example and attitude of Napoleon satisfied the scoffers of his generation—they could not believe that the homely beet would ever vie with the tropical cane as a sugar producer. The literature of the times contains, for example, a humorous caricature, published in 1811, ridiculing the emperor and his son, the little King of Rome. Napoleon is represented as sitting in the nursery squeezing a beet into a cup of coffee and near him is the King of Rome putting another root to his mouth—his nurse telling the youngster to "Suck, dear, suck!—your father says it's sugar!"

After the downfall of Napoleon the industry languished for many years, but improvements were made from time to time, especially in Germany, and then France also took the matter up again with renewed energy, both nations stimulating manufacturers by liberal government bounties. Later, Russia, Austria, Hungary and other European countries entered the field. Up to 1860 the annual product amounted to only about 150,000 pounds—but by 1889, Europe was manufacturing 1,800,000 to 2,000,000 *tons* a year. To-day the world's output averages between 7,000,000 and 8,000,000 tons.

The cultivation of the sugar-beet was first taken up in the United States in 1880, American interest having been developed by the exposition of machinery and processes at the World's Fair in Paris in 1878. Congress called for a report on the subject and, following its receipt, farmers in several states added the sugar-beet to their crops—receiving for a time encouragement in the form of bounties by the Federal Government and various State Legislatures. In the beginning, inexperience and want of adequate machinery told heavily against success, but these drawbacks were soon surmounted and the annual United States output now averages more than 400,000 tons.

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Beet pulp and juice flowing into tanks for diffusion with water

The beets used for sugar making are raised from specially grown and carefully selected seed, for their value depends not on their size but on the density of their juice—sugar factories generally paying the grower according to the sugar percentage in an average of his crop. The white elongated type is generally conceded to be the best producer and a root weight of from fourteen to twenty-four ounces as the most generally satisfactory.

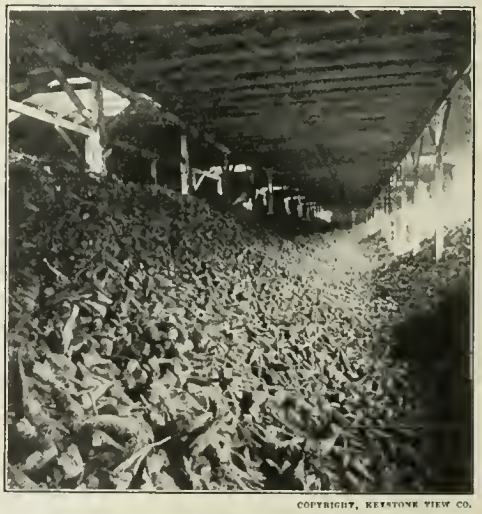
The beets are as a rule transported by wagon to the mills, there to be washed, sliced and placed in the diffusion tanks.

In some parts of France and Germany, the labor of carrying the beets to the mills is avoided by a system of underground piping from the beet farms to a central factory. Each district has a diffusion apparatus to extract the juice, which is then treated with a small quantity of lime and pumped into pipes leading into large vats in the factory.

One hundred pounds of the best Silesian beet-roots will yield an average of about ten pounds of sugar—about half of fine quality and the balance of minor grades.

The value of the crop is increased by the fact that the pulp after the extraction of the juice is still an excellent cattle food.

Other Sources of Sugar.



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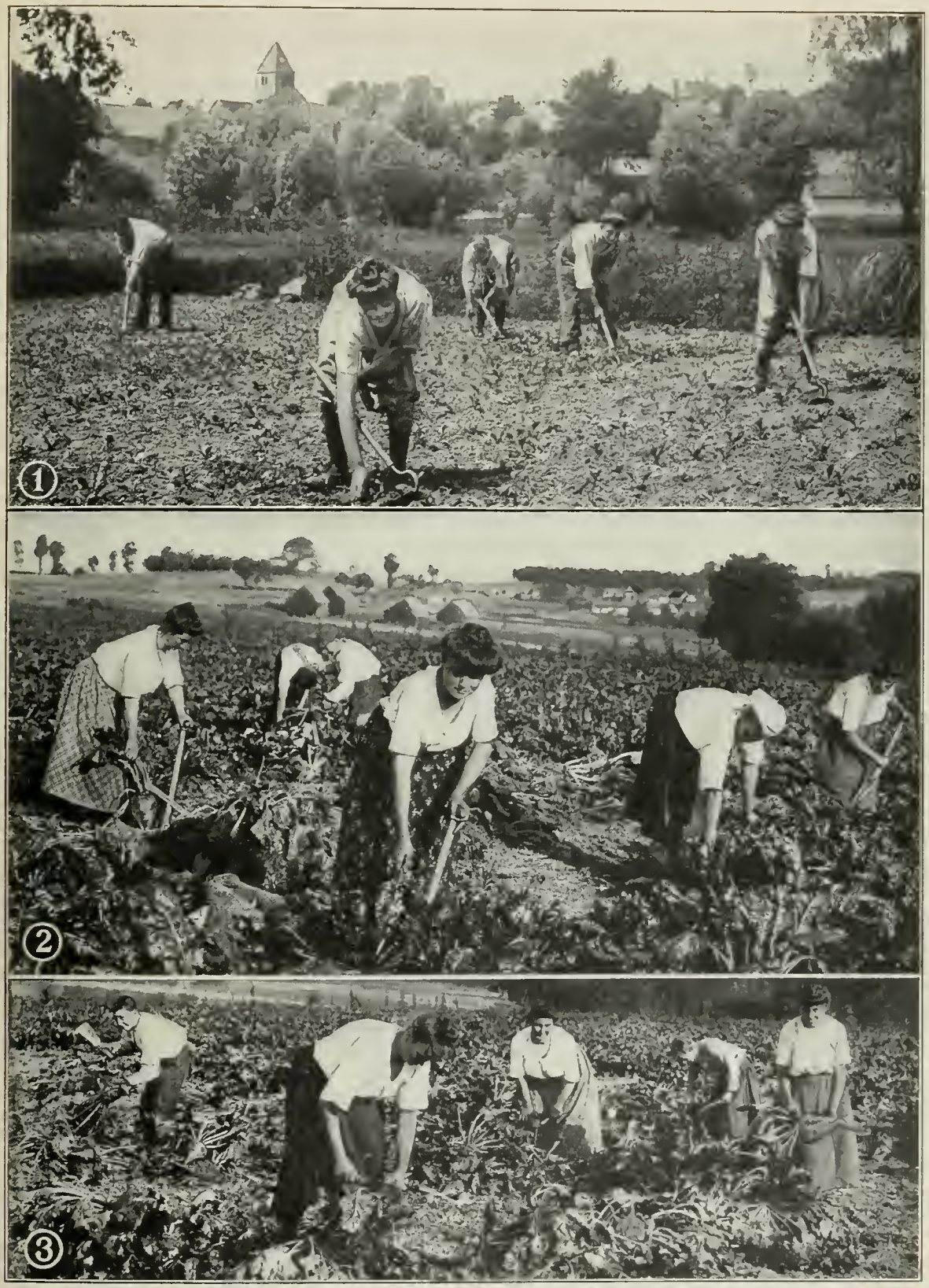
A shed for storing beets—canals under the bins carry the roots to the washing room

The general assumption is that only plants such as the sugar-cane, beet and sugar-maple will yield sugar, but in fact a great many others contain it, frequently in considerable quantities. To extract and manufacture crystallized sugar at a price which the general public is willing to pay, requires, however, a plant easily cultivated, bountiful in crop and possessing a large percentage of sugar in a form that lends itself readily to crystallization, and, so far, only the sugar-beet and sugar-cane have responded to the test well enough to interest the civilized world.

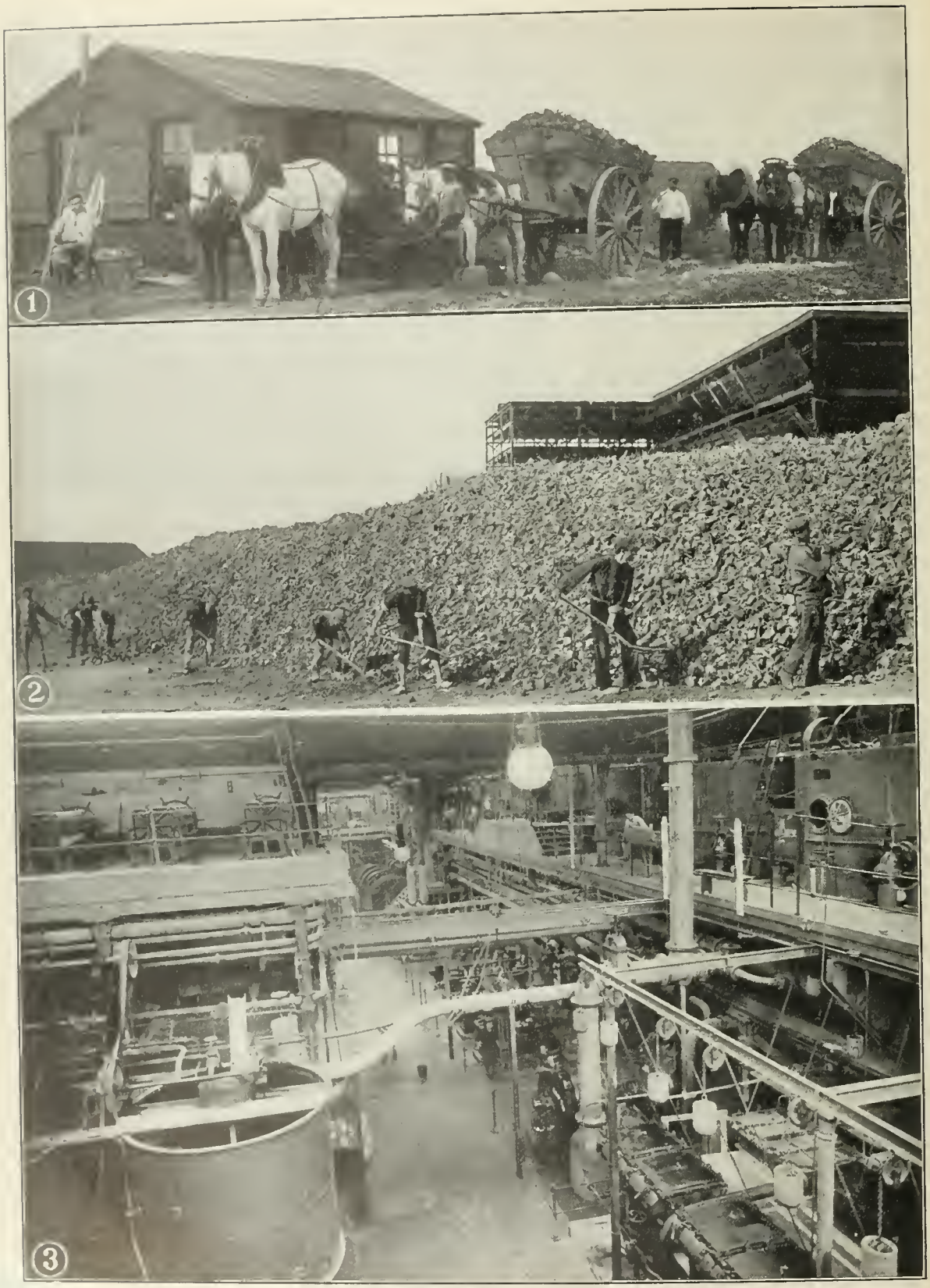
The sugar obtained from the sap of the North American Maple tree is omitted from this consideration. It is a decided commercial success—the "crop" is not only always sold to the last ounce, but a great abundance of imitations are marketed in its name—but it is too limited in quantity to enter into calculation as a general sugar product. Its delicate flavor classes it rather as a natural confection (see article on MAPLE SUGAR AND MAPLE SYRUP). The product of the Sugar Palm is also thoroughly desirable, but the total output is comparatively small.

From time to time numerous fruits, grains and vegetables have seemed to offer commercial possibilities—a fairly good sugar can, for example, be obtained from bananas; sorghum a few years ago was hailed as the coming American sugar crop and



(1) Weeding the beet fields—note the manner in which the women's skirts are caught up to make their labor easier
(2) Pulling the mature beets (3) Cutting off the tops

THE BEET-SUGAR INDUSTRY IN THE NORTH OF FRANCE



(1) Weighing the wagons of beets as delivered at a sugar-factory (2) Piling up the beets after unloading the wagons
(3) General view of the Diffusion Vats or Cells

THE BEET-SUGAR INDUSTRY IN THE NORTH OF FRANCE

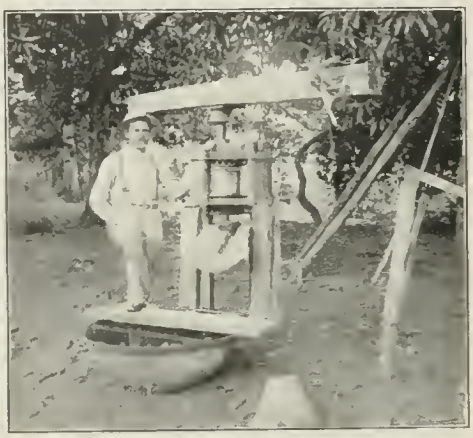
for a short period did keep several factories busy; the juice of the birch tree has been used in Scandinavia and Scotland, and both Europe and America have experimented with the sugar-melon, etc., but none of these has lived up to first hopes, nor reached the point of competition for the general market.

Sugar as a Food.

Sugar was formerly dealt with rather harshly by medical experts, it being charged with injury to both teeth and stomach. It is now generally acknowledged as a food item of great value. Used in moderation, it has been proved that it is a flesh and bone builder for children and important as a substance for supplying energy under conditions of continued physical strain—for soldiers on long marches, etc.

This endorsement by physicians is particularly directed to the pure sugar itself—eaten plain, dissolved in water or contained in chocolate, etc. It does not extend to an extensive diet of sweetened articles such as pastry.

The United Kingdom is the greatest per capita consumer, averaging about ninety-three and a half pounds annually for each member of the population. The United States comes next with about eighty-two pounds. Then, in the order named, are Denmark, Switzerland, Norway, Sweden, Holland, Germany and France. The smallest per capita consumption is in Italy, with only about seven and a half pounds, and the Balkan Peninsula, with less than seven pounds.



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A primitive Sugar Mill, Panama Canal Zone

Grape Sugar, Invert Sugar, Starch Sugar. See GLUCOSE and CORN SUGAR.

SUGAR APPLE: another name for the fruit described under the title of SWEET SOP.

SUGAR BERRY: one of the many names of the HACKBERRY (which see).

SUGAR CANDY: a confection of pure sugar. See ROCK CANDY.

SUGAR CANE. See sub-head in article on SUGAR.

SUGAR LOAF: a compact mass of refined sugar in cone-shape.

SUGAR MELON: a variety of cantaloupe, nearly round in shape, with silvery-grey, ribbed exterior and thick, aromatic, very sweet flesh of orange color. It averages about five or six inches in diameter and weighs generally from 2½ to 4 pounds.

SUGAR PLUM: a term locally applied to various forms of candy, especially those of small size and oval or round shape.

SULPHUR: also known as Brimstone in its crude state, is a mineral widely distributed over the earth's surface. When pure, it is a pale yellowish in color, solid but brittle, and insipid and odorless when cold. Formerly, a full ninety-five per cent of the

American, as also the bulk of the entire world's supply, came from mines in Sicily, where it is found in large quantities in gypsum beds, but to-day the principal domestic source is the State of Louisiana, where immense deposits exist about 400 feet below the surface. The supply is reached by melting it underground by superheated water and pumping it up in a liquid state. On congealing, a practically pure sulphur is obtained. More than 300,000 tons a year are secured by this process.

The domestic output is supplemented by the importation of sulphur ore or rock from Spain, Portugal, Canada and other countries, and a limited quantity of Crude Sulphur from Italy and Japan.

The ore is cooked in special furnaces and the melted sulphur is run into wooden molds to set, the product being the Crude Sulphur of commerce. Finer grades are obtained from it by distillation.

Sulphur in its various forms—sulphuric acid, sulphur-dioxide (or sulphurous acid gas) etc.—is employed in many ways—as a germicide, disinfectant and insect destroyer—in the bleaching of some materials, in the manufacture of vulcanized rubber, matches, etc. Its most popular medicinal use is as a laxative.

SULTANAS: a variety of small seedless raisins. See general article on RAISINS.

SUMMER DRINKS. Under this head come such articles of the retailer's stock as root-beer extract, fruit syrups, grape juice, lemon and lime juice, ginger ale, sarsaparilla, etc. In hot weather it is profitable to make a handsome display of these lines.

SUMMER SAVORY: one of several names for the herb described as SAVORY.

SUNFLOWER OIL: is obtained from the pressed shelled seeds of the sunflower. The industry originated in Mexico, but its present commercial centre is the Black Sea Provinces of Russia, in which country it is popular as a salad, cooking and industrial oil, and whence large quantities are exported. It is pale yellow, nearly odorless and mild and pleasant in flavor.

Sunflower Seed: is sold here as a bird food, especially for parrots.

SWANS: are generally bred for ornament, but there is a small annual consumption of the young birds, called "cygnets." Their flesh is too highly flavored for the general public taste, but it receives the practical approbation of some epicures.

SWEDISH TURNIP, or *Turnip-rooted Cabbage*: a variety of cabbage which is grown chiefly for its large turnip-like root, which grows partly under and partly above ground. In flavor it resembles the Kohlrabi. The flesh is yellow in some types, particularly the Rutabaga, and white in others.

SWEDISH PUNCH: punch of arrack or other spirit, variously flavored. Some bottled varieties are allowed to develop an effervescence like champagne.

SWEETBREAD: the soft, milky thymus glands of the young calf and lamb, the former being the more highly esteemed and considered one of the greatest of all meat delicacies. Lamb sweetbreads are too small to be commercially important. The glands are divided into the "throat sweetbread" and "heart sweetbread," the latter

being generally preferred because of its special tenderness and larger size. They are most delicate when obtained from a young suckling calf, and they gradually disappear after it is turned out to grass. They should have a generally clear appearance and should be a little darker than the fat from the same carcass. In France they are developed to large size by special feeding.

The Pancreas of the older animal, frequently but incorrectly styled "sweetbread," and also known as the "Belly Sweetbread," is an entirely different gland, but it bears a resemblance sufficiently close to warrant its consideration under this heading. That most commonly retailed is from the beef carcass and is distinguished in some markets by the appellation of "Beef Bread." It is not as choice as the true sweetbread, but, properly selected and prepared, it makes a very pleasing dish. Both careful selection and cooking are essential, the former because Beef Breads are frequently too fatty and the latter because, in incompetent hands, they are liable to be tough.

SWEET FLAG: a plant of the reed type growing in swamps and on river banks in the Northern States and some parts of Europe. Its root, which has a strong aromatic smell and a biting taste, is in some sections converted into a home-made confection by candying in slices. It is also employed in medicinal preparations, in the making of toilet vinegars, by rectifiers, etc., and for scenting snuff.

SWEETMEATS: a general term applied to all candies and sweet preserves.

SWEET POTATOES: are the roots or tubers of a creeping, vine-like plant, native to tropical America but growing freely in any part of North America where the summers are long enough to permit sufficient root growth, and cultivated also in the East Indies, the Philippines and other Eastern countries, and the South of Europe. Botanically, they are not in any way related to the ordinary or "Irish" potato, the plant being closely akin to the convolvulus and morning-glory vines, but in food value they correspond closely, excepting that the "sweet" contains from 4% to 10% of sugar, whereas the ordinary potato has none.

Sweet Potatoes

The several varieties may be divided into the "moist-fleshed" and the "dry" or "mealy" fleshed types. The Southern-grown product is generally drier than the Northern. Large and moist-fleshed roots are frequently called "yams," but incorrectly.

Sweet potatoes should be stored in a dry place where the temperature is not below 60° nor above 70° Fahr. Great care must be exercised in protecting them during cold weather as they are easily damaged by frost. Some persons bury them in sand or dust, but this is not necessary. If used, it should be perfectly dry.

They must also be handled nearly as carefully as eggs. Their condition should be well noted before buying, and any that

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Igorrote girls gathering Sweet Potatoes, Luzon, P. I.

are bruised should be rejected. The common potato may be shoveled around rather carelessly, and often a bruise on one end, or even a decayed spot, will not affect the remainder of the root. But with "sweets," a bruise at one end soon spoils the whole.

Ignorance on these points is responsible for many of the sweet potatoes of poor quality served during the winter. With proper attention they can be kept in good condition for several months. Kiln-dried, they can be held until the middle of June.

SWEET SOP, or Sugar Apple (*see* TROPICAL FRUITS, *facing page* 586) : a sweet, aromatic fruit of the Anona family, somewhat resembling a small, crownless, greenish pineapple. The pulp is sometimes cooked, but it is best in its natural state.

SWELLS (*Canned Goods*) : a commercial term applied to cans of food of any kind which bulge or "swell" out of shape. They should never be sold. See CANNED GOODS.

SWISS CHARD. See matter and illustration following title of CHARD.

SWISS CHEESE. See *Swiss Cheese* and *Emmenthaler* in general article on CHEESE.

SWISS WINES: resemble those of Italy, but they have not attained as full international recognition. A majority of the best red wines, among them *Cortaillod* and *Faverge*, of Burgundy style, come from the canton of Neufchatel, and the most noted of the white varieties, as the aromatic *La Côte*, *Desclay*, etc., from the canton of Vaud. Montreux supplies the dry golden *Yrorne* and *Aigle;* Geneva, a strong red wine known as *Gringet*, and Valais, *Malvasia* (Malmsey) and *Glacier*, of liqueur style.

SWORDFISH: a large fish found in the Mediterranean, Atlantic and Pacific, highly esteemed for food, both fresh and salted. It takes its name from the fact that the upper jaw is remarkably elongated and compressed in the form of a sword or dagger. On our coasts it frequently reaches 12 feet in length and a weight of 400 pounds.

SYNTHESIS (Chemical): is the formation of special compounds by combinations of elements or radicals. The term is in popular language chiefly applied to the artificial production of natural compounds, as in the synthetic manufacture of camphor, indigo, flavoring extracts, etc.

SYRUP: a title under which may be grouped a wide diversity of articles. The two highest types are MAPLE SYRUP (which see) and *Cane Syrup*, the latter obtained by condensation and refining of sugar-cane juice, without extraction of any of the sugar content. Next come those obtained as the residue (1) of the manufacture of raw sugar, (2) of sugar refining. The former is treated under the heading of MOLASSES; the latter is variously known as *Treacle*, *Refiner's Syrup*, *Golden Syrup* and *Drip Syrup*. The best qualities are refined and purified to a high degree and are as valuable from a dietetic standpoint as they are pleasing in taste.

Equally wholesome, if properly prepared, is *Corn Syrup* made by imperfect hydrolization of starch (see GLUCOSE). When flavored with Cane or Maple syrup, or good Molasses, etc., it is a very enjoyable article. Its manufacture needs, however, careful supervision, as minor grades sometimes consist either wholly or in part of syrup left over from the processes used in developing various forms of Starch Sugar, etc., and

are liable to contain a percentage of the acid employed in the process. Purchases should be confined to concerns of known responsibility.

U. S. Standard Syrup is defined as "the purified and evaporated juice of the cane or other plant from which no sugar has been extracted." It must not contain more than 30% water nor more than 2½% ash.

U. S. Treacle, or Refiner's Syrup, must not contain more than 25% water nor more than 8% ash.

A noteworthy development of the trade in recent years is the canning of a considerable percentage of the syrup retailed. It is said that the canned syrup does not contain the full flavor of that formerly filled into the old-fashioned jug from the syrup barrel, but its greater convenience seems to outweigh that defect. Canning offers further the great advantage that it does away with the necessity for any preservatives to prevent fermentation, as syrup hot from the kettle or pan filled into thoroughly sterilized cans, or other packages, and then hermetically sealed, will keep almost indefinitely without deterioration.

See also article on FRUIT SYRUPS.

TABASCO: a long-podded red pepper cultivated chiefly in southern Louisiana. It is best known to commerce as Tabasco Pepper Sauce, a rich, red, concentrated extract generally put up in small bottles with corks shaped for dropping. It is also sold powdered, but to less extent.

Tabasco Sauce is excellent for flavoring soups, salads, etc., and some people like it on oysters. Only small quantities should be used, as it is very strong. In making sauces, etc., if a sharp, quick effect is desired, mix with vinegar. If otherwise, mix first with olive oil and salt, and then with vinegar—the result will be soft and delicate, but still strongly marked by the characteristic Tabasco flavor.

TALCUM POWDER: a class name for a number of kinds of face and toilet powders, *Talcum* being the pharmaceutical term for "talc," their general base, a mineral compound consisting of silica and magnesia, principally the former, found in combination with other rock in various parts of Europe and North America. Talc is extensively employed in many other industries, as in the manufacture of porcelain clay, etc.

TALLOW: is the rendered or melted fat of animals, separated by heat from cellular tissue, the term being chiefly used in connection with beef and mutton fat. It is used in soap-making, for softening leather, etc. Its quality varies very widely, some grades which are carefully rendered and purified being free from odor or taste, while others are so coarse as to be almost offensive in character. The large quantities produced here are supplemented by importations from Russia, South America and Australia.

TALLOW TREE: the name given to several trees, native to different parts of the world, which produce a thick oil or vegetable tallow capable of being used in the manufacture of candles. See *Chinese Tallow Tree* in the article on WAX.

TALLY TRADE: the English name for the "installment" system of payment.

TAMARA: a mixed spice used in Italian cookery, consisting generally of one part each of aniseed and fennel seed, and two parts each of cinnamon, cloves and coriander.

TAMARIND: an East Indian tree of the bean family which reaches a height of from thirty to forty feet, and is now cultivated in all tropical countries. The fruit, whose principal ripening season is during the months of June, July and August, consists of long thin shell-pods, dark brown when ripe, filled with an acrid-sweet, dark-colored pulp enclosing large, flat, hard seeds. The general method of treatment is to remove the shells and throw the pulp, together with the network of fibre which covers it, into kegs, usually of fifty pounds capacity, then fill with boiling syrup. The kegs without further preparation are shipped to various foreign markets, to be repacked by local dealers in stone jars, glasses, etc.

Tamarinds

Sugar Tamarinds is a higher grade packed in jars immediately after gathering, in alternate layers of fruit and sugar, and retaining much of the original color and taste.

Tamarinds serve as an excellent addition to chutneys, curries, etc., and some people enjoy them as a preserve. A pleasant laxative drink is prepared by mixing with either hot or cold water.

TAMPING: a term applied to the wrappings of bales of sago and other goods packed by the Malays, among whom the word means "package"—as, Sago Tamping.

TANGELO: one of the new citrus fruits, a cross between the tangerine and grape fruit. It blends and modifies the characteristic sweetness and bitterness of its parents, and offers a distinctive and agreeable flavor of its own. It is a fruit of convenient size, being smaller than the grape fruit but larger than the ordinary orange.

TANGERINE: a small orange with a thin, loose, fragrant rind. See ORANGES.

TANSY: the very aromatic and somewhat bitter leaves of a garden plant, employed for both medicinal and seasoning purposes.

TAPIOCA: is made by heating the starch obtained from the roots of the MANIOC (which see). Under the action of the heat the starch grains burst and are converted into small irregular masses. This product, after thorough baking to remove all remaining moisture, is *Flake Tapioca*. *Pearl Tapioca* is that rolled into pellets before baking. The product is also marketed in various sizes of *Granulated*—listed as such, and also as "Manioca," etc.—and in pulverized or flour form.

In cooking, tapioca becomes a translucent and highly nutritious jelly, largely retaining its raw shape, though in increased size. With appropriate additions, it makes excellent puddings, and it is also valuable for thickening soups.

Tapioca Crecy and *Tapioca Julienne* are artificial products of French preparation from potato starch, mixed with various vegetable substances. They are intended chiefly for use in soups, etc.

TARE: a deduction from the gross weight of goods, allowed to cover the weight of the package. *Actual* tare is obtained by emptying the package and weighing it apart

from its contents. *Average* tare is calculated by weighing a few of the packages and deducting from all filled packages the average weight so ascertained. *Estimated* tare is arrived at by a reasonable allowance for the supposed weight without actually ascertaining it. After the deduction of the tare, the balance is called *net weight.* Formerly, other deductions were made after taking off the "tare"—one for waste through dust, etc., being called *tret;* followed by lesser ones called *draft,* for the turn of the scale; *cloff,* an allowance of 2 lbs. in every 3 cwt. retailed, etc.

TARIFF. All legislative rulings and statutes, proposed or executed, on the subject of the tariff, should receive every merchant's study and consideration. It is not necessary to be a professional politician to see that all tariff conditions and changes affect the merchant doubly—(1) by their application to his stock, and (2) by their effect on the prosperity of his customers.

TARO: a tropical plant especially abundant in the South Pacific Islands. The roots are acrid, but they make an agreeable and wholesome food cooked in various ways, and the leaves and stalks are prepared as "greens."

Taro

TARRAGON: a small aromatic herb used for flavoring vinegar, mustard, pickles, sauces, salads, etc. It is sold green and dried, the latter both loose and in cans and bottles. A half-pound of green tarragon will flavor fifty-four gallons of *Tarragon Vinegar.*

TARTAR: is best known to the trade in the form of Cream of Tartar (which see).

TARTARIC ACID (*Commercial*): is made from crude tartar or Argol (which see). It is used in the manufacture of baking powder, effervescent beverages, etc., and as a substitute for citric acid and lemon juice in the preparation of cooling drinks and saline draughts. Industrially, it is employed in large quantities in calico printing, etc.

TASTE. The sense of taste varies far more widely than is generally supposed. The trained and delicate palate of the wine or tea sampler is not merely a matter of education—a primary requirement is a native possession of fine sensibilities of taste and smell—both are important, for many of the more delicate flavors appreciably affect both senses. When tasting wines or teas, the expert does not drink the liquor—instead, he passes it quickly and thoroughly around his mouth so that it may strike every part of its lining membrane, and then as quickly spits it out. Bad health, or any derangement, temporary or otherwise, of the stomach or other organs which come into connection with the nose or palate, limit the power of accurate taste. Cigar samplers, after tasting so many brands that their sense of taste is dulled, resort to a free use of strong coffee, which quickly refreshes it. See also reference to this subject in the article on Butter.

TAUNUS SPRING. See article on table and medicinal Mineral Waters.

TAUTOG: another title, from the Indian word *taut,* for the Blackfish (which see).

TEA. The first discovery of the virtue of the beverage obtained by infusing the tea-leaf in water, is hidden in the obscurity of ancient history. One Chinese tradition gives the credit to some Buddhist priests, who, unable to use the brackish water near their temple, steeped in it the leaves of a shrub growing in the vicinity, with the intention of correcting its unpleasant properties. The experiment was so successful that they spread the news among their neighbors and subsequently engaged in extensive cultivation of the plant.

Another record attributes its discovery, about 2737 B. C., to Chin-Nung, a celebrated scholar and philosopher, to whom nearly all agricultural and medical knowledge is traced in China. In replenishing a fire made of the branches of the tea plant, some of the leaves fell into the vessel in which he was boiling water for his evening meal. The consumption of the beverage thus formed—the first "pot of tea"—proved so exhilarating in effect that he formed the habit of so using the leaves. Later, he imparted to others the knowledge thus accidentally gained, and in a short time it became the common property of the empire.

China is generally acknowledged as the birthplace of the tea industry. Some writers reason that the honor belongs to India or Japan, but other authorities name the thirteenth century as seeing the first use of the leaf in the latter country.

Tea was brought to Europe in the sixteenth century, the Dutch East India Company introducing it into Holland. The first authenticated mention of it in England is in the year 1657—at which time it was considered a very rare luxury. It was known as early as 1680 in the American colonies, selling at from five dollars to six dollars a pound for the cheapest varieties. Its use was for many years widely condemned by writers and preachers, who attributed to it numerous qualities inimical to health, morals and the public order, but that attitude was long ago relegated to oblivion and the enormous quantity now consumed places it among the most important of food articles. Its title comes from *Té*, the Chinese name for it in Amoy dialect. In other parts of China, it is known at *Ta*, *Cha*, *Dzo*, etc.

The tea shrub is an evergreen somewhat similar in appearance to the camellia, to which it is botanically related. The Assam type in its wild state grows to a height of fifteen to thirty feet, with numerous branches and a wealth of lance-like leaves, which often attain a length of six to nine inches. The China varieties and the numerous crosses are more dwarf in habit and of smaller leaf. The rather large, white, fragrant flowers grow singly, or two together, in the axils of the leaves. Under cultivation, the shrubs are not allowed to exceed four or five feet in height, and flowering is permitted only for seed purposes.

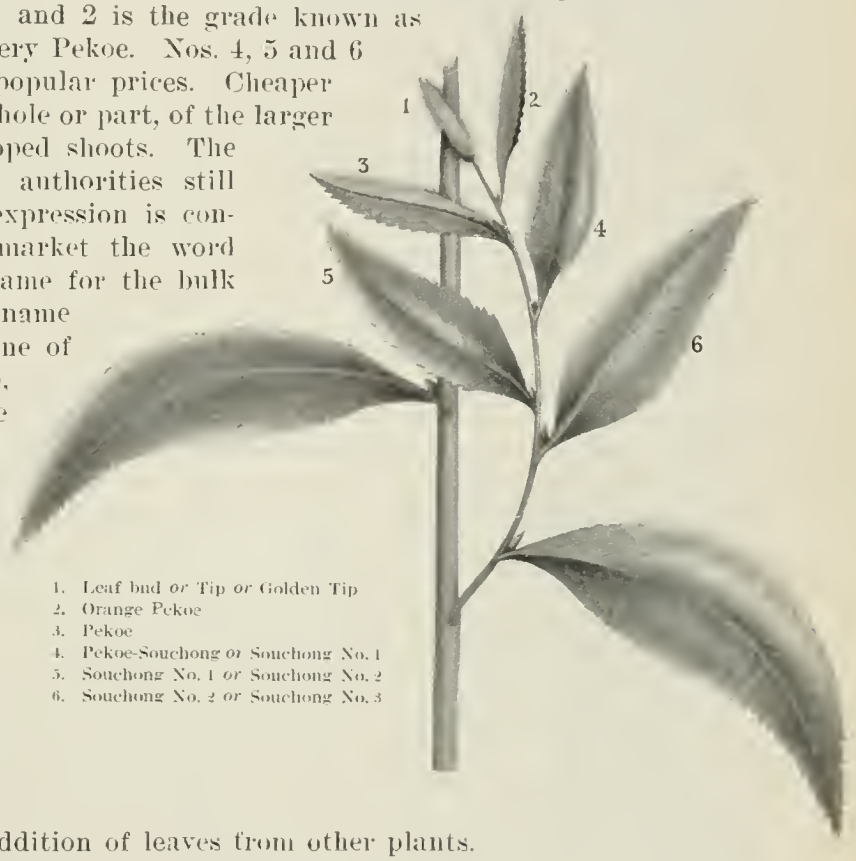
The plant, raised from seed in the nurseries, is set out in the fields or "gardens" when about twelve inches high. It bears its first crop when about four years old—according to locality, soil, etc.—but a year or more before the crop is expected it is cut down to a height of a foot or less. It is again cut down to about twenty-four inches three months before gathering—the object being to make the bush spread and to stimulate the fullest possible growth of the "flushes" or young shoots which furnish the tender, succulent new leaves desired. After this operation it is "picked" regularly for two years—the bushes putting forth new "flushes" at frequent intervals—when it is again pruned back to allow it to rest. With proper care and under favorable conditions, its bearing life is practically unlimited.

The picking is generally delegated to women and children. Each has a basket strung by a cord over the head or attached to the waist in such a manner as to leave

TEA PLANT

both hands free for plucking. Only the new shoots are gathered, and care is taken to avoid damaging the leaf-bud in the axil below the leaves taken, as that in its turn soon develops into a new "flush." The whole flush may be taken or only the choicer upper part, according both to the size of the shoot and the minimum grade leaf desired. The rapidity and accuracy of the experienced picker is almost incredible.

The accompanying illustration of an average "flush" shows the leaves which determine the size classifications of the manufactured tea, though in actual growth such exact regularity is unusual, the young leaves frequently appearing two or more together. A mixture of Nos. 1 and 2 is the grade known as Broken Orange Pekoe or Flowery Pekoe. Nos. 4, 5 and 6 make the teas of medium to popular prices. Cheaper grades consist frequently, in whole or part, of the larger leaves from more fully developed shoots. The title "Congou" is by several authorities still accorded to No. 6, but this expression is confusing, as in the American market the word Congou serves as a general name for the bulk of China Black Teas. The name Bohea, correctly the title of one of the China varieties of the shrub, is similarly applied in some circles to any leaves larger than No. 6, though it was formerly used as a specific title for very choice grades.



1. Leaf bud *or* Tip *or* Golden Tip
2. Orange Pekoe
3. Pekoe
4. Pekoe-Souchong *or* Souchong No. 1
5. Souchong No. 1 *or* Souchong No. 2
6. Souchong No. 2 *or* Souchong No. 3

The young leaves of all varieties are very similar in general appearance when fresh plucked. The larger leaves differ considerably in general proportions, but they always retain the characteristic construction which renders it easy to detect the addition of leaves from other plants.

The quality of the tea leaf before preparation depends on: (1) the locality—even the poorest product of an up-land garden is often choicer than the best of a low-lying garden; (2) soil composition—the minerals contained—for this plays an important part in determining flavor; (3) the selection of the leaves—by including some of the older leaves, the crop may be greatly increased, but the grade is correspondingly lowered; and (4) the judgment exercised in the time of plucking.

The weather exerts a great influence. When the rain falls equably and a bright sun appears after heavy showers, the plants become rich with new shoots, and the leaves bright green, elastic in texture and rich in flavor. When too much rain falls at one time, shoots and leaves become hardened and less flexible. If there is too little moisture, they are stunted and sapless.

In Ceylon, where there is no winter, the picking takes place every eight or ten days all the year round, but in China and Japan there are four principal harvest periods. The earliest buddings—pale green and very delicate—are gathered in the

beginning of April and are termed "first picking." In China, these, as a rule, realize high prices and are consumed chiefly by the wealthy classes in China and Russia, very little reaching other markets.

The first general gathering commences in May, and it is from this collection that we receive the finest China tea of commerce—known to the trade as "First Crop tea." Then follows a later picking, known as "Second Crop tea," and again a third and fourth, the quality gradually becoming lower in quality as the season proceeds, a large percentage of the late harvests being consumed locally and made into "Brick Tea."

All kinds of tea come from the same shrubs, the main difference between "Green" and "Black" being that Black Tea is fermented and Green is not. The number of varieties of prepared tea, both Green and Black, is due to the sorting of the leaves into the different sizes, and to local differences in making and blending.

Prior to the sorting, the freshly picked shoots undergo four main processes if Black Tea is required—withering, rolling, fermenting and firing. For Green Tea, fermentation is omitted.

The shoots for Black Tea are first spread on shelves of wire or jute-hessian to "wither," the object being to allow the sap and other moisture to evaporate until the leaf is soft and flaccid for "twisting" in the rollers. The shelves are very loosely woven, so that the air can pass through them freely. The time required for this process varies widely—sometimes twenty-four hours, occasionally much longer. If the weather is damp, artificial heat is generally employed. For Green Tea, in order to avoid fermentation, steaming for a short time is substituted for the withering process.

The withered shoots are put through rollers, which squeeze out any excess moisture remaining and give the "twist" which results in the characteristic form of the prepared leaf. The appearance of the leaf or "roll," as it is technically termed, when taken out of the roller, is a mess of mashy lumps. This is put through a roll breaker, which breaks up the lumps and sifts the detached leaves and young stems through the wire mesh into cloths placed below to receive them.

For Green Tea, the product from the roll breaker immediately undergoes "firing." For Black Tea, it is spread out in wooden frames, covered with wet cloths and allowed to ferment until the leaves attain a bright copper tint—the color which they should have in the teapot after infusion. The extent to which fermentation is permitted, is determined by the smell and appearance of the leaf—points that require experienced judgment, as too little means rawness and bitterness, and any excess destroys much or all of the flavor.

For "firing," the tea is spread thinly upon wire trays and placed in the *Sirocco* or *Desiccator*, where a current of hot air, from 190° to 240° Fahr., passes through it. It emerges thoroughly dry and brittle—the finished tea, requiring only sorting and packing to be ready for the market. About 4,200 pounds of green shoots are required to make 1,000 pounds of the prepared article.

After cooling over night, the tea goes to the *Sifter*, a machine with a series of sloping sieves, one above the other.

The sieves are shaken, by engine or motor power, at a very high speed, and the tea falls through from one sieve to another, each sieve retaining a different size and emptying itself into a chest through a spout at the low end.

The leaves and stems retained by the top sieve—*i. e.*, the largest—form the "ordinary" grades of tea. Each size smaller is correspondingly choicer—excepting the last, known as "Dust," or "Dust and Siftings," or "Fannings," sold at low prices.

The second sieve retains (in Black Teas) Pekoe or Pekoe-Souchong, according to the crop or estate policy; the third, Pekoe or Orange Pekoe; and the fourth, Orange Pekoe or Broken Orange Pekoe or "Flowery Pekoe" (so-called because of its cup quality). The term "Pekoe" refers to the downy appearance of the under-sides and ends of the young leaves, and "Orange" to the color of the ends of the still newer leaves and to the "tips" or leaf-buds, which look like little chips of wood and are also commercially classed as "Golden Tips."

The Tips give the tea a good appearance and add greatly to its strength and flavor. They are sometimes separated and offered as Pure Golden Tips, selling in London for as high as fifty dollars a pound.

When the sorting is done largely by hand, as in China and Japan, the size grades are much more numerous.

Caper is a Black Tea resembling the green Gunpowder in shape.

In the Green Teas, the sorting produces the different sizes of Gunpowder, Young Hyson, etc. (see sub-head of CHINA GREEN TEAS). Uncolored green tea varies in tint from yellow to a greenish brown. The gray-green of the China and Japan teas imported prior to May 1, 1911, was due to the addition of a minute quantity of coloring powder during the firing.

The various grades—after, frequently, a supplementary picking over by hand—are day by day stored away in their separate bins, until there is enough to make what is technically known as a "break"—5,000 pounds and upward.

The next operation is *Bulking*. The whole contents of the bins of one grade are thrown together and agitated by scoops or shovels until so thoroughly mixed that each pound of tea will be the same as another in flavor and appearance. Finally comes the packing in chests, cans and packages—the tea in the first two cases being shaken down to make it lie close. The numerous processes of preparation are responsible for the broken condition of most of the leaves in the product finally marketed.

Much of the Tea Dust which accumulates in manufacture and as the result of transportation and commercial handling, is of very fine quality. If protected from contamination and properly cared for in other respects, it makes good liquor. There is a strong prejudice against its use in America—partly, perhaps, because it lends itself so readily to adulteration—but in England it commands a ready sale, as, used in the correct proportions, it improves the blend, adding to its strength and pungency. In tea-growing countries it is a common practice to pulverize the leaves by rubbing in the hand, dropping the powder into the drinking-cups in which it is steeped.

The foregoing description gives a general idea of the method now employed in making India and Ceylon teas, both Black and Green, but the principles employed are those also used in the preparation of China and Japan teas, the chief difference being that in the two latter countries machinery plays a comparatively unimportant part—much of the Firing is done in pots, bowls or baskets over charcoal fires, and the Twisting by placing the leaves in bags and rolling them with the hands.

In China there is a strong contrast between the busy season and the slack time which follows it. In an interesting article, published prior to the recent introduction of modern methods, the *Foochow Herald* said: "A tea-packing house at this season presents a very different scene from that of two months before. Then, one found long lines of fifteen-catty boxes waiting to be soldered up. Now, none. Next, one found fat bags stacked up eight or ten feet high, bursting with tea that escaped here and there through holes temporarily stopped with bamboo leaves; the bottom of the

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Tea gardens on the hillsides, and Rice fields in the lowlands, near Shizuoka, Japan

bags mostly stained from contact with wet flights of mountain stairs upon which the exhausted coolies had set them down on the passage. Now, one finds but empty chests, hundreds in number.

"Farther on, one came to the dozen long rows of sifters facing each other, forty in a row, the mesh of some taking a pencil, that of others refusing a pencil point—sifting tea-leaf rough and bold that, after a persuasive grasp or two of the hand, broke and consented, after a few shakes of the sieve, to be stripped of some of the sappy leaf-edges and leaf-ends and to appear below, the even and uniform leaf which the tea-drinker insists he must have (*plus* the dust due to the persuading). The transformation in a rough leaf in passing the meshes of a coarse sieve, with a gentle crush from the sifter's hands, enhances a rough bold tea very considerably in value.

"In place of the rows of men then seen tilting and jerking their sieves in a monotony only broken by the Cantonese taskmasters' roll-call twice a day before the general meal of fish and rice, there is now to be seen only the bare floor of hardened earth, piles of empty benches stacked in a corner and the sieves of the twelve different sizes used, each in its division in the three-story stands.

"The dozen or score of fanning mills are still, too. The tea-leaf separated in these fanning mills has been sold, and the mills will rest until another May shall bring courage back to the pale and dispirited native teamen.

"There are stacked in this huge go-down a few hundred packages of the native maker's brick-tea wrapped in plaited bamboo strips, bound in half bamboo and triply rattaned. Aside here, its manufacture still continues. The Chinese upper millstone is being turned upon the nether by a Chinaman who is grinding the tea seeds left by a fanning mill, and in these sycee-boxes sharp spades are falling upon the stems, chopping them fine enough to go into the steamy, dusty mixture to which the seed-dust gives the strength, while the chopped stems vouch for its being tea.

"In the firing house are the four Chinese rice kettles, two feet across the mouth, which when in use—set obliquely upon edge—turn the tea back in a shower over the hand of the stirrer, a wood fire being kept up in the brick-work underneath.

"Fire holes also, scores in number, follow in rows the walls of the firing house, in each an iron charcoal pan. Over each of these fires is a huge hour-glass-shaped basket-hood or muffler that shuts in all the heat of each fire to but one outlet—that through the tea sieve which chokes the throat of each basket. In these baskets is dried the tea that comes in from the hills, wet or flat from constant down-pours and from the first fermentation of the leaf.

"Here, too, on the floor above, the benches are empty where girls and women came to sort the rough stems from the leaf, getting half a cent for removing them from the two catties of tea apportioned to them, in wound bamboo-woven trays.

"The floor is now bare where we then saw the Ningteh tea brought to a uniform shade, by shaking the bags with a few spoonsful of lamp black—then bulked upon

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Picking Tea on a great plantation near Osaka, Japan

the floor, to be strewn white as a spring grave with the pure muhli blossoms; then blossoms in turn buried under another avalanche of funeral tea, and this again with blossoms, life upon death—then both rudely mingled together and put away in boxes for a night till the fragrance had been robbed by the dead tea, the faded flowers being finally thrown aside, spent and worthless.

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Coming home from the tea fields, Japan

"Our round finished at the shed where, out of long sheets of lead, Chinese lads were glibly making lead cases by moulding them, hatter-like, upon a box, and then running the soldering iron along the edges. Other Chinamen, in their natal costume, were washing off the dust and sweat of the day at a huge four-hogshead vat of hot water. There, too, were piles of wood for the hot tea-coppers, crates of up-river hardwood charcoal for the firing pans and firing baskets. We must leave without the sight we then had of the mad dervish dance of two Chinese, who, given a dozen pounds of tea stems in a tray, under their sandals perform about the interior periphery a double shuffle, twist and grind that is cooler for the spectator, the thermometer in the nineties, than for the performers from whose bodies the perspiration rolls onto the tea stems below.

"The box factory is elsewhere. We enter on our homeward way. It is in another old disused tea hong—occupied by foreigners in the days when money was made—tumbled-down now and abandoned to Chinese. Inside, a few Chinese youths, eating a dollar's worth of rice per month, were rapidly gluing and dove-tailing together, by rough wholesale strokes, boxes by the score. Few nails are used, for these are hand-made and cannot be afforded. What a bungling "mending" the merchant pays for when these frail cases reach the land of rough usage and coarse nails!

"There you saw a bit of thin teakwood; there a bit of paper gaudily daubed with cardinal colors—a stroke or two—side marries end, the gaudy paper cover hides all joints, and the catty-boxes, gay with bird, butterfly, dragon and phoenix, are *en route* to be stared at in a far-off grocer's window.

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Sorting tea, Japan

"Every season sees vast quantities of tea pass through the sieves in hundreds of packing houses, some in hamlets in the hills, some, as in Foochow, in cities ten to fifty miles from the hills, much of it brought in by women who have carried it up and down the mountain pathways, twenty-five miles a day, regardless of their bent backs, their only food often a double handful of salt in their girdles to bite at before they drank.

"Probably all the tea leaving Foochow has been lifted up and down as much as if it had been carried up one side of the great pyramid and down the other a score of times. Boatmen

at river marts have fought pitched battles for it, their livelihood depending upon its transport, and plenty of other men have been ready to fight for the privilege of carrying it—women, also, under their loads, behind their new husbands."

This graphic picture relates to tea-making in 1874. Modern methods we have already described.

Consumption and Principal Varieties.

The consumption of Green Tea—twenty or thirty years ago the standard variety—has to a considerable extent given place to the taste for Black Tea.

An equally important commercial change has been the increase in favor of Ceylon and India teas at the expense of the Chinese varieties. Imports from China have been greatly reduced during the last few years, falling from 53,157,332 pounds in 1904 to 24,394,663 during 1910.

When to this loss of trade from the United States is coupled a still greater diminution in the English market, where Ceylon and India teas are most popular—for, after China and Japan, England is the world's largest per capita tea consumer—the natural assumption is that China must feel the change of conditions very severely. As a matter of fact, the Chinese merchants are the only material losers. The greater part of the China tea sold was, and is, produced by small planters who have never been able to secure an adequate price for their leaves, so when the demand for tea fell off many of them planted more beans and potatoes and were just as well contented.

Japan has succeeded China as the principal source of the Green Tea consumed in this country, and supplies about half of the total quantity of all tea imported. The third place is held by Ceylon and India teas, imported both direct and via England.

The titles most familiar to the public are *Black,* in all qualities and prices; *English Breakfast,* generally a China Congou; *Mixed,* blends of black and green leaves; *Ceylon and India,* black; *Oolong,* green-black leaf; *Green,* in "Gunpowder," "Young Hyson" and other sizes, and *Japan,* in general usage applied to a light Japan green tea.

The more "fancy" varieties include the Pekoe, Orange Pekoe and scented types.

"English Breakfast" tea is an American trade term unknown in England.

The titles popularly known are, however, entirely inadequate to describe or classify the many varieties of tea on the market. They leave the importer, wholesaler or retailer a wide range from which to select varieties and blends to suit his trade and environment.

Even the list following of China,

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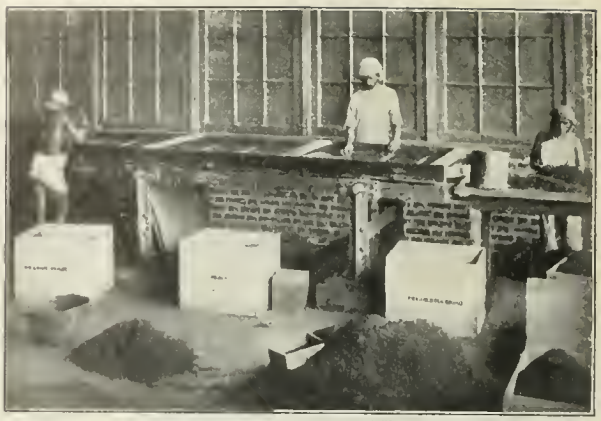
Tea Firing Machines, Ceylon

Japan, Ceylon and other teas is far from being exhaustive. It includes only the most important, and most generally accepted, trade titles and distinctions. Accuracy is rendered the more difficult by the lack of system in applying and retaining titles.

The widest range in qualities is found in China teas—they vary from very choice types which are too expensive to make importation profitable, to large quantities of grades so poor and so badly manipulated that their importation into this country is not permitted.



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"Sorting over" tea, Ceylon

Teas as retailed consist usually of several varieties or grades "blended" to produce the most pleasing results—a small quantity of an expensive highly fragrant tea being added to a plainer, lower grade to improve its flavor; an over-strong high grade being toned down by a lighter variety—and so on indefinitely.

CHINA GREEN TEAS.

The highest commercial types of China Green Teas are *Moyune* and *Teenkai*. Others of importance are *Hoochow, Fychow* and *Pingsuey*.

All China Green Teas are graded as Fancy, Choice, Finest, Fine, Medium or Standard—as Nos. 1, 2, 3, 4 and 5. These are also sub-divided into:—

Gunpowder, consisting of the youngest and smallest leaves, and roundish in appearance. In four grades—extra, first, second and third; the smallest and most curled, being the choicest.

Imperial, like "Gunpowder," but larger. In three grades—first, second and third.

Young Hyson. In five grades—extra, first, second, third and "Cargo." The best grades have long, well-twisted leaf, varying in size.

Hyson, larger than Young Hyson and more loosely twisted. In three grades—first, second and third.

The average consumer regards "Gunpowder," "Hyson," etc., as distinct qualities or varieties of green tea. Correctly speaking, they are the titles for particular sizes and shapes only—you may have a Gunpowder size of the poorest or of the choicest.

OOLONG TEAS.

Oolongs are frequently classified as Black Teas, but they really constitute a separate type, for they are not as thoroughly fermented before firing as the general run of Black Teas and therefore hold part of the flavor and a little of the color of Green Tea. There are three recognized varieties, *Foochow, Formosa* and *Canton*, but practically all of the supply imported is of the first two.

Formosa Oolong, in the choice grades, has evenly curled dark leaf with a mixture of Pekoe tips. It is very aromatic in flavor.

Foochow Oolong is especially black in leaf, and the liquor of the finer qualities is rich and mellow.

Oolongs are commercially graded as Fancy, Choicest, Choice, Finest, Fine, Superior, Good, Fair and Common.

CHINA BLACK TEAS.

The bulk of the China Black Teas imported into the United States is known as *Congou.* There are numerous grades, the highest of excellent cup quality, and their blending results in a great many varieties of all styles and values—among them numerous qualities of *English Breakfast, Black Tea* and *Mixed Tea.* The principal commercial classifications are into Choice-New-Crop, Choicest, Choice, Finest, Fine, Superior, Good, Fair, Common; by numbers, 1, 2, 3, etc.; as Pekoe, Souchong, etc. The leaf of the better qualities is greyish black and well twisted and the liquor is rich in color and pungently pleasant in flavor.

Prominent among the fancy teas are:

Flowery Pekoe: small, evenly-folded, olive-colored, generally scented.

Orange Pekoe: small, black leaf with yellowish ends, generally scented.

Pekoe: small, with whitish tips, generally scented.

Pouchong (also used as a general term for all China paper package tea): rather rough, dull black leaf, generally scented.

SCENTED TEAS.

The Scented Black Teas come almost exclusively from China and Formosa. They are generally perfumed—in most cases after manufacture—by contact with the flowers of other plants, usually with the Chulan blossom, which has an odor similar to jasmine.

The two leading varieties are Foochow and Canton, sub-divided into *Scented Caper, Scented Flowery Pekoe, Scented Pekoe, Scented Pouchong,* etc.

Scented teas are chiefly used for blending—sometimes with high grade leaf to further enhance its value and sometimes with cheaper kinds to disguise their harshness. The best blends are frequently listed by the titles of the Scented Teas employed.

JAPAN TEAS.

The best varieties of Japan tea show a medium-sized or small leaf and a bright, clear, fragrant liquor—the latter in the Green Teas generally of a lighter color than the China Green.

On importation they are graded as:

Pan Fired: medium size, generally green, evenly curled.

Basket Fired: long, dark, well twisted.

Dust or *Fannings.*

"Nibs" is irregularly twisted, larger leaf, sifted from the higher grades.

For commercial purposes, Japan teas are graded as Extra Choicest, Choicest, Choice, Fine, Good, Medium and Common. They are marketed both as "Japan Teas" No. 1, No. 2, No. 3, etc., and by conventional titles for size and style.

CEYLON TEAS.

The ordinary grades of Ceylon Tea are largely marketed in this country as "Ceylon Tea" of First quality, Second quality, etc.

A fuller division is into the following principal varieties, each subject to subdivision into several grades:

Broken Orange Pekoe, or "Flowery Pekoe," the very finest variety: small young leaves and a large proportion of Golden Tips.

This grade is not generally marketed here because the U. S. Laws prohibit the entry of any tea containing more than a certain percentage of Broken Leaf that will pass through a certain designated sieve. As Broken Orange Pekoe is always small in

leaf and contains a considerable proportion of still smaller tea, it must be very carefully screened if it is to pass the test, and the loss and difficulty thus involved prevent all but the very largest importers from attempting it. The intent of the act when passed was to guard the public against inferior and unclean grades, but it has also resulted in keeping out some very choice types.

Orange Pekoe: similar to Broken Orange Pekoe, but the leaves larger and with a smaller proportion of Tips. The liquor is clear and fragrant.

Pekoe: leaf slender, whitish and satiny; liquor, dark-reddish, bright and fragrant.

Pekoe-Souchong and *Souchong*—constituting the bulk of the Ceylon teas of general consumption, blended frequently with Pekoe: leaf larger and coarser than the preceding varieties, but giving a rich and pleasant liquor.

It is the black varieties which have won popularity for Ceylon teas, but some Green Ceylon is also prepared under titles corresponding to those of China Green.

Ceylon teas are further divided by shippers into "low" and "high" grown—those from low ground and those from higher altitudes. The latter are much superior.

INDIA TEAS.

The greater part of the India product is of Black Tea, the best qualities coming generally from the districts of Darjeeling and Assam. The leaf is ordinarily a grey-black and is in the best grades Golden-Tipped. The liquor is strong and pungent.

The chief commercial classifications are Broken Orange Pekoe or Flowery Orange Pekoe, Orange Pekoe, Broken Pekoe, Pekoe, Pekoe-Souchong, Souchong, etc., or "India tea" of First quality, Second quality, etc.

The general style and appearance of China teas are followed, but there is a difference in detail—the leaf is generally longer and narrower and better curled and cured.

JAVA TEAS.

A small quantity of Java teas is annually imported, both direct and via Holland. They are primarily known under local classifications, but they are prepared as Pekoes, Souchongs, Oolongs, etc. In liquor they have good strength, flavor and color.

THE INDUSTRY IN THE UNITED STATES.

Attempts covering nearly a century to create a tea-growing industry in this country have not met with any degree of commercial success. Some of the tea obtained has been excellent in quality, but none has been able to compete with the Asiatic crop.

TEA TERMS.

It will be noted that the titles originally applied exclusively to the China product have extended to nearly all teas, irrespective of their place of growth or manufacture. A majority are corruptions of local Chinese terms, as for example:—

"Oolong," from *ou-loung*, "black dragon," referring to the black leaves mixed with the greenish-yellow.

"Hyson," from *hetsien*, "spring time,"—the season of the first and second pickings.

"Young Hyson," from *yü-tsien*, "before the rains," or "young spring time."

"Pekoe," from *pak-ho*, "white hair"—referring to the down on the young leaves.

"Souchong," from *siaou-chung*, "small sprouts."

"Congou," from *kung-fu*, "labor."

"Gunpowder" tea is an Anglo-Saxon name, originally suggested by its small round form. It is called *choo-cha*, or "Pearl tea," by the Chinese.

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Coolies unloading Tea at Hankow, the great Tea Market of Interior China

Retailing Tea.

The demand for tea has so greatly increased during the last few years that retailers find it profitable to give it special attention. Only good dependable varieties should be stocked, and when a satisfactory line is established and selling well, it is usually the wisest policy to avoid making any changes, as the average tea-drinker becomes used to one particular flavor and prefers it to anything new.

In purchasing, the first and most important test is that of flavor when brewed. Next comes the appearance of the leaf in bulk and individually. Generally speaking, the best qualities are small and more or less tightly curled—with variations as noted in the descriptions of different types. Young tea is easily chewed to a pulp, and fresh Black Tea is smooth and elastic when pressed in the fingers.

For the flavor test, the requirements are a scale of the style ordinarily used by druggists (cost about $5) and a dozen small china cups of equal size. The old rule for sampling was to weigh the equivalent of a silver 5-cent piece into each cup, pour boiling water over and taste when sufficiently cool. As the silver 5-cent piece has gone out of use, the easiest method for the average person is to weigh the equivalent of a dime and put *half* of the quantity into the testing cup. It would be useless to attempt to impart any detailed rules by which to discriminate, as only experience and constant application—with a fine palate as an initial qualification—can produce a really proficient tea-taster.

Success in catering to consumers requires a knowledge of individual tastes—there is a tea to suit everyone, if you know what each one's preference is. As a general thing, one can count on a good sale of Oolongs, Mixed and English Breakfast, when the neighborhood has no particular race characteristics. Ceylon and India and Oolongs are most popular where English and Irish people are especially numerous.

Blending, Storage, Etc.

The highest branch of the tea-merchant's calling is found in the blending of teas—the mixing of different styles and strength to produce special results—but for the retailer without good experience to attempt it, is rather risky. To produce an especially pleasing blend is not an easy matter, and to repeat it is still more difficult—and it is very undesirable to establish a demand for a particular flavor if you are unable to continue supplying it. The art is fascinating—and profitable if successfully conducted—but first experiments should be on a very small and conscientiously recorded scale, and they should be accompanied by a close study of the literature of the business, for there are many points—the comparative keeping qualities of different varieties, for example—in addition to flavor and aroma, which must be very carefully considered.

Tea, whether in bulk or package, should always be kept in a moderately cool, dry place, away from all other articles of distinctive smell. Not only cheese and similar strong smelling articles, but even the aroma of oranges, lemons, etc., will affect it. Dampness will spoil it utterly by starting secondary fermentation, and exposure to the air, if in bulk, will cause it to lose flavor, strength and aroma.

Tea naturally keeps fresh best in tight-fitting canisters and in sealed tin or lead packages, but it deteriorates with age no matter how packed. A retailer who is jealous of his reputation should sell no tea of any kind—package or otherwise—that is more than six to nine months old.

CHINESE COOLIES ON THEIR WAY TO TACHIEN-LU, WITH BRICK TEA FOR TIBET
The load of the coolie on the left weighs 298 lbs., that of the man on the right 317 lbs.

Tea Analysis and Its Use as a Beverage.

The most important components of the tea-leaf of commerce are (1) *Theine,* the chief stimulating principle, usually placed by analysis at from 2% to 3½%; (2) the oil and resinous ingredients, which furnish the flavor and aroma of the liquid, and (3) the tannin and gummy substances, which give it "body" and strength. There is, in addition, a small quantity of essential oil, which slightly increases the stimulating properties.

Chemical analysis shows also a large percentage—40% to 60%—of protein, cellulose, fibre, etc.—but nearly all of this is found in the residue, the "tea-leaves," left after making the liquid. The greater part of the tannin, which averages from 12% to 18%, meets the same fate if the tea is fresh made.

To enjoy the best qualities of any variety—and also the best physiological effect—tea drinkers should bear in mind that, (1) the water used must be both fresh and boiling; (2) the pot in which the infusion is made must be kept hot, but not boiling, for from three to five minutes after pouring in; and (3) the tea must not stand longer than three to five minutes before drinking.

If the water used is not fresh—*i. e.,* if it has been standing long or been previously boiled—the tea will be flat in flavor. If it is not actually boiling at the time of pouring on the leaves, the result will be a rough, raw taste. A china or earthen pot is better than a metal one. A pot warmed before putting in the dry leaves, is better than a cold one.

The fresh-brewed liquid (after a three to five minutes infusion) contains nearly the total amount of the theine (which corresponds to the caffeine in coffee) and only enough tannin, etc., to give it palatable strength. If it is allowed to stand on the leaves longer than five minutes, its flavor will be injured by the excess of tannin developed; if longer than seven minutes, the tannin will not only detract from the flavor, but also tend to render the beverage a detriment to digestion. The brewed tea can, however, be saved for later use, either hot or cold, if poured off the leaves into a china or earthen vessel.

The quantity of leaves required to make good tea depends both on individual tastes and on different varieties. India and Ceylon are generally stronger than China and Japan.

The result is also frequently affected by the water supply—the water in some localities makes much better tea than is possible in others. Some authorities assert that the quality of the water should be considered as a factor when making a blend—that water containing an excessive amount of lime or other mineral matter, requires the stronger, coarser varieties of leaf, and that the delicate types produce their fine flavor and aroma only when the water is "soft." This is disputed by other experts, who assert that the "best tea" is the best everywhere, though it will display its qualities to better advantage under favorable conditions.

To make good *Iced Tea* use from one-quarter to one-third more of the leaf than for tea to be served hot. Prepare the beverage just as carefully, and do not allow it to stand on the leaves for longer than five to seven minutes. Pour the liquid off into another vessel and *allow it to cool gradually.* It should always be made two or three hours before serving, to give it time to cool gradually. To chill hot tea by setting in the refrigerator or putting ice in it, is to spoil its flavor. When ready to serve, add ice, lemon, sugar, etc., according to taste.

Brick Tea: consists of leaf and dust shaped by pressure into cakes, divided by indented lines into small, easily separated squares, which expand when put into boiling water. It is manufactured in large quantities in China, both for local consumption in various sections and for export to Tibet, Siberia and elsewhere, serving as a standard article of barter for numerous commodities produced in those countries. It is generally transported, often for great distances, on the backs of the hard working native "coolies" or porters. The illustration on page 631 shows the peculiar method of arranging a "pack," the long bundles of bricks, wrapped in matting, being piled sail-fashion on a cane frame fastened on the porter's back. For months at a time there is an almost continuous procession of these coolies along the roads to Tachien-lu, a little frontier city cramped within mountains, which serves as the general mart for Chinese and Tibetan traders, the latter bringing musk and gold dust to exchange for the tea.

Caddy or **Tea Caddy:** a small chest, box or canister, or a chest containing several canisters, for packing or holding tea. The word was adapted from the Chinese *Catty,* a small measure of tea, as a title for the characteristic oriental tea packages themselves. *Catty* was derived from the Malay *Kati,* a little more than a pound. Large quantities of imitation oriental caddies are now made in this country and used by grocers to repack tea. They are shipped in "nests," the smaller sizes fitting into the larger, thus giving a wide variety of size and occupying very little space.

When used as a measure, the word "caddy" now generally signifies any package containing less than a half Chest. A Chinese Chest is equivalent to about 82 pounds or 3/5 of a Pecul (about 139 lbs.). The India and Ceylon Chest contains 90 pounds.

Tea Tablets: consist of Tea Dust or finely ground tea pressed into squares or cubes for use by campers, etc.

Tile Tea: is a kind of flat Brick Tea made in China, exported by way of Keachti and distributed throughout Siberia by Armenians and Tartars. It is cooked with milk, butter, salt and herbs and eaten as a vegetable.

TEAL: a well known variety of wild duck. See DUCKS (*Wild*).

TENDERLOIN. See general article on BEEF.

TEPLITZ. See article on table and medicinal MINERAL WATERS.

TERRAPIN. The *Diamond-back,* which is the kind always inferred when terrapin is mentioned, is the female of a small salt-water variety, named from the diamond-shape marking of its shell. Within the last half century it has developed from almost a waste product—an article fed to slaves and apprentices before the Civil War—into one of the highest priced of food delicacies. The average marketable specimen now brings, at wholesale, from $2.50 to $8, the figures steadily rising with the diminishing supply.

Diamond-Back Terrapin

The terrapin from the mouth of the Chesapeake River were formerly considered the best, but equally good lots come from several other Southern States, both coast and gulf, and from Long Island, Connecticut and other Northern points. Those from

Diamond Back Terrapin
Showing full back markings

Long Island now command the best prices in the North. *Counts* are terrapin of six inches in length and over —measuring the under-shell; those under six inches are *Shorts*. The range of size is from two to nine inches, but the very small are rated as inferior. The season extends from November to May.

It is only the female or "cow" terrapin which is sought for market purposes. The "bull" has little or no value. The choicest terrapin are those styled "Full Cows"—i. e., those containing eggs.

The *Mississippi* and *North Carolina* terrapin are also marketed, but they lack both the distinctive diamond marking and the true delicacy of flesh and are consequently much lower in price.

The "Slider" or "Red-Bellied Terrapin," often used as a substitute for the Diamond-Back, is a small fresh-water tortoise.

THYME: a garden herb largely cultivated for its fragrant tops and leaves, which are popular as a culinary seasoning. The best variety is the Lemon-scented.

Thyme for drying should be cut when just commencing to blossom and should be slowly dried in the shade. It is sold in cans and bottles, or loose, in small bunches.

TIERCE. See *Measures* in Appendix.

TOBACCO. The origin of the word "tobacco" has been traced back through quite an interesting history. It starts with the name of a pipe which the early Spaniards found in Santo Domingo, and which was known as the "tobago." Later, this was corrupted to "tabaco." The Italians, Portuguese and English added an extra "c," and the English changed the "a" in the first syllable to "o"—but all clung to the same word. Germany, Denmark, Holland, Scandinavia and Russia make it *tobak*, France *tabac*, Poland *tabaka*, and the Malays *tambracco*. The similarity renders it easy to get something to smoke anywhere in the world without waiting to learn the language!

The introduction of tobacco into Europe by early settlers in the Southern portion of what is now the United States, is so distinctly a matter of universal knowledge that it is unnecessary to dwell on it here. First used by the American

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A Tobacco plantation in Havana province, Cuba

TOBACCO

Indians and carried to Europe as a curiosity by the early discoverers of our continent, it is now cultivated in every part of the globe where the climate is sufficiently mild.

The United States is by far the largest tobacco producing country and also the largest exporter of leaf tobacco. The States which rank first in quantity raised are, Kentucky—a long way in the lead; North Carolina and Virginia. Next come, in the order named, Wisconsin, Ohio, Tennessee, Connecticut, Pennsylvania, Maryland, South Carolina, Massachusetts, Missouri, West Virginia, Georgia and Florida.

Other important producing countries are, in *Europe*—Germany, Holland, Salonica, Hungary and Russia; in *Asia*—China, Japan, India, Dutch East Indies, Philippines, Latakia and other parts of Asiatic Turkey, Persia and Syria; in *Africa*—Algiers; and various sections of *South America*.

The United States and Belgium are the largest per capita consumers, each averaging about 5½ pounds annually. Germany comes next with 3½ pounds. France and England average 2 pounds.

Cutting Tobacco

By the most widely approved method of cultivation, the young plants are obtained by sowing the seed in specially prepared beds of rich soil. In Virginia, which may be taken as an example, the sowing is usually performed during the first week in January. The plants are ready for setting out about the beginning of June.

Sorting Tobacco

The fields require much careful attention—thorough weeding is essential and so is a watchful eye to prevent the ravages of numerous insect enemies. Much of the latter work is done in some sections by flocks of turkeys, maintained for that express purpose. The flower shoots also must be nipped off as soon as they commence to develop, as otherwise they would weaken the leaves. This process is, however, neglected in some countries, especially in Turkey and Greece, where small leaves are preferred, and where, in some cases, as in the celebrated Latakia tobacco, both buds and flowers are used together with the leaves.

The "ripeness" of the plant is indicated by a peculiar spotted appearance of the leaves. The time generally chosen for cutting is mid-day, or when the sun is powerful and the morning and evening dews absent. Cutting is done by hand, and only the plants marked are taken.

Some growers cut the plant in three sections—the three top leaves, making

Making tobacco bundles or "hands" before baling

usually the finest wrappers, in one piece, and the remainder of the stalk in two. Others take the leaves only, or the top leaves and the lower stalk separate. The leaves at this stage are green, fresh and odorless.

The next process is the "curing" or "drying"—sometimes in the sun, at others by "air drying" under cover—the latter process being the longer and requiring often from two to four months—generally first one and then the other.

Examining and baling Tobacco for shipment

The leaves are next removed from the stalks and "sweated" in piles for a couple of days. Then comes the assorting—the bad leaves are rejected and the others are graded by size and appearance, tied up in bundles called "hands," and, if for cigars, packed under great pressure in cases or bales and generally stored in dark, well ventilated warehouses for a year or more, to "ripen" by fermentation and further curing. If for smoking or chewing tobacco, the "hands" are pressed into hogsheads.

Manufactured tobacco may be classed under three heads—*Smoking, Chewing* and *Snuff*. *Smoking* is again divided into Cigars, Cigarettes and Loose Smoking Tobacco, and *Chewing* into Fine Cut, Plug and Twist (for both smoking and chewing)—the tobacco for the last-named being twisted into "rolls" of numerous sizes and variously flavored.

"Stripping" Tobacco—removing the stems and midribs

Cigar Tobacco is sub-divided into "Wrappers," the largest and finest leaves; "Binders," the next in point of desirability, and "Fillers," a mixture of small leaves and lower grade large leaves.

About 65% of the Fillers used in the United States is of domestic tobacco. Cuba supplies about 25%. The balance comes chiefly from Turkey and Germany.

The very large proportion of 32% of all wrappers used in this country and more than 95% of all imported wrappers, consists of those from Sumatra, via Holland. The reason is found in the extreme care exercised in preparation—the fine uniform appearance of the leaves and their careful assortment by length and shade. Connecticut and Florida lead in the production of domestic wrappers.

Loose Smoking Tobacco, after curing and other preparation, is cut up in special machines and then "roasted" to attain the desired degree of mildness. It varies greatly in quality.

Chewing Tobacco was formerly sold principally in Fine-cut form, but of late years that style has been almost supplanted by Plug Tobacco as the result of the many improvements in its manufacture. The "plugs" of a few years ago and those of to-day are

totally different in character—the leading makers now employ the choicest material and have produced a great variety of pleasing combinations.

In the manufacture of Plug, the chief processes are: (1) stemming, (2) sweetening, (3) drying, (4) flavoring, (5) "lumping" and (6) stamping.

The equipment of the sweetening department consists of a number of large copper kettles containing hot syrups, both plain and flavored with cloves, allspice, tonka beans, or other spices, licorice solutions, etc. The tobacco is dipped into these kettles and then squeezed through rollers to remove excess moisture. The drying which follows is performed by hanging in rooms heated by steam pipes.

Retailing and Use of Tobacco.

To the grocer, tobacco presents itself in two phases, (1) as an article on which a satisfactory profit can be made, and (2) as drawing and pleasing a profitable class of customers. It is, though, a common mistake for the grocer to endeavor to obtain an excessive profit on cigars and tobacco. He should be content with about 20% to 25%, and by careful purchasing give his customers full value.

Wetting Tobacco that is to be used for cigars

The whole matter of the *use* of tobacco is very fairly summed up in the following remarks by a noted physician. "Before the full maturity of the system is attained, even the smallest amount of smoking is hurtful. Subsequently, the habit is, in most instances, only prejudicial when it is carried to excess. We cannot honestly say more against tobacco than can be urged against any other luxury. It is innocuous as compared with alcohol; it does infinitely less harm than opium; and it is in no sense worse than tea."

See also special articles on CIGARS, PIPES and SNUFF.

TODDY. In tropical countries, the word "Toddy" usually signifies the sap or juice of some variety of palm, drunk either fresh or as a fermented intoxicating beverage. In England and the United States, the term is more generally applied to a drink of brandy, or other spirits, and hot water, well sweetened.

TOKAY, or *Tokaji*: a famous Hungarian wine, the best varieties of which are made from grapes ripened almost to raisins on vines growing in a limited section of the Hegyallya district in the vicinity of Tokay. It is sweet and very delicate in flavor, brownish-yellow when new, changing gradually to a distinctly greenish tint as it grows older.

The choicest type is the *Tokay Essentia*, or "Essence," also known as Imperial Tokay, made from the drippings from the ripest vine-dried or "shriveled" grapes, placed in tubs with perforated bottoms, no pressure but the weight of the grapes being employed. It is of liqueur style, very sweet and of fine bouquet and flavor, but the quantity produced is so small that little reaches the general market.

Next in rank is *Tokay Ausbruch*, made from the must of the ripe grapes left after the removal of the shriveled berries for the Essence or other purposes, together with the addition of a certain quantity of the dried berries, pressed to a pulp. This also

is highly valued, and in Europe enjoys a remarkable reputation for its tonic qualities —so eagerly are the best grades sought by medical agents and wealthy connoisseurs, that only a small percentage is left for the ordinary consumer.

The lowest grade and ordinary commercial type is known locally as *Tokay Máslás.*

There is a great deal of imitation tokay on the market. Much of it is excellent in wine quality—but not deserving fancy tokay prices.

TOLU: a fragrant, pale brown balsam, or gum, gathered from a tropical South American tree, which on distillation furnishes benzoic acid (see BENZOATE OF SODA). Blended with spirits, the gum has merit as an alleviation for colds, etc., and it is also sometimes used in confectionery, imparting a flavor resembling vanilla, for pastilles and in perfumery, etc.

TOMATO: the fruit of an annual plant of the Nightshade family—the order which includes also the egg-plant and potato. It was for a long time considered unfit for food by the general public, but it is now highly esteemed as especially wholesome and is marketed in enormous and ever-increasing quantities and in numerous forms—fresh, canned, in catsup, etc.

The origin of the tomato is still clouded in uncertainty, but botanists generally name South America as its home. It was probably cultivated in Mexico and Peru for many centuries prior to the advent of the Spaniards. Several varieties were known in England by the end of the sixteenth century, and Gerard, the surgeon and botanist, speaks of it in his "History of Plants," having himself introduced it as an exotic. Dodoens, the Netherlands herbalist, also mentions it as early as 1583 as a vegetable to be eaten with pepper, salt and oil. Its popular acceptance was, however, slow in arriving, for it is only within the last three generations that it has become a food item of general use.

The United States is the greatest per capita consumer. Next, perhaps, comes Southern Italy, where it is used in the preparation of, or as an accompaniment to, nearly every dish. The Italians call it the "Golden Apple." It was also formerly known as the "Love Apple" in France, England and this country.

In Northern European countries the consumption is largely of the canned product. The plant is grown in England, but sparingly, as it requires hot-beds in the spring and the fruit is consequently high priced.

In this country, the fruit ripens in fields and gardens in various sections from June to November. The winter and spring demand is supplied both by the West Indies and the output of domestic hothouses. The growing of hothouse tomatoes has increased more than 500% during the last five years, due to the demand for a better quality fruit than that shipped from the tropics. The finest ever imported came a few years ago from Spain, but the expenses of transportation were not warranted by market prices.

There are many kinds of tomatoes, ranging from the fancy, generally small, varieties known by their resemblance to other fruits—as the "Currant," acid in flavor and growing, currant-style, in long clusters; the "Cherry" or "Grape," borne in bunches; the "Pear," etc.—to the many sizes of the ordinary tomato, reaching the maximum in the huge "Beefsteaks"—which frequently weigh from two to three pounds each—and varying in color from deep red to yellow. The most generally

TOMATOES

desirable are those of medium size, smooth, round and of even color, with thick walls and small seed cavities.

One of the most interesting of the numerous kindred fruits of the same general order is that known in many sections as the "Strawberry Tomato" and described under the title of GROUND CHERRY.

Green, but firm and well grown, tomatoes, gathered just before frost, can be ripened in a dry cellar for winter use. They should be wiped dry and placed on racks, the latter preferably straw covered. Any specimens that show signs of decay during the ripening must be at once removed before the trouble spreads to others.

Canned tomatoes are the most widely consumed of all canned vegetables, and this popularity is thoroughly deserved, as for many culinary purposes they are more convenient than, and equally as good as, the fresh fruit. Their acidity is generally more developed than in the fresh fruit, but this is easily reduced by adding a small pinch of bicarbonate of sodium. When a "tinny" flavor is noticeable, it can be avoided by adding a little sliced onion during heating, the average proportion being about half a medium-sized mild onion to the contents of a three-pound can. The quantity named is not sufficient to give any onion taste to the tomatoes.

TONGUE: is one of the most popular of meat delicacies. Beeves' or Beef tongues are generally understood when "tongue" is mentioned, but calf's, lamb's, sheep's and pig's tongues also come under the heading in the butcher business. Calf's tongue is usually sold with the head. Lamb's tongue is generally pickled.

In purchasing, choose those which are thick and firm, with plenty of fat on the under-side.

Canned tongues of the best brands are just as desirable as those bought and cooked fresh. The term "Lunch Tongues" generally signifies canned pigs' tongues. "Compressed" tongue is subjected to pressure before or during the canning process.

Dealers should never sell a can of tongue—or of any meat or fish—during warm weather without reminding the buyer to cool it thoroughly before opening.

For *Tongue Sausage* see sub-head in article on SAUSAGES.

TONKA, or Tonqua, BEAN: the dark, aromatic seed of the fruit of *Coumarouna odorato,* a South American tree. The essential principle, known as Coumarin, is a white substance found in small crystals under the coat and between the lobes. Because of a similarity in aroma, Tonka Beans, or the extracted coumarin, are frequently employed in the manufacture of low grade or imitation vanilla extract. They are, though, heavier and coarser in flavor and their commercial value is less than a tenth of that of even minor grade vanilla beans. Their legitimate uses include the perfuming and flavoring of smoking and chewing tobacco. Placed in wardrobes and trunks, they impart a pleasing odor and preserve clothes from moths. Coumarin is also found in Woodruff, Sweet Clover and several other plants and is manufactured synthetically in considerable quantities.

TOOTHPICKS. The bulk of the common wood-splint toothpicks in general use are of domestic manufacture. White birch is considered the best for the purpose, but poplar and maple are also largely employed. In manufacture, the branches are first trimmed and the bark skinned off, the naked trunk being then run through a machine which slices it into long thin strips, or "veneers," of toothpick width and thickness. The

veneers are fed into a second machine supplied with sharp, rotary knives, which snip them into toothpicks at the rate of hundreds of thousands an hour.

The greater part of the "fancy" toothpicks —those of polished wood, reed and quills—are still imported from Europe and Japan, but their manufacture here is increasing.

TORTILLA: a large round thin cake of popular consumption in Mexico and numerous other countries. It is made by soaking corn grains until soft, then crushing them to a paste—generally by working them with a roller or similar instrument on a large stone, as in the accompanying illustration—shaping into the desired size and cooking on iron or earthen plates.

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Tortilla making, Mexico

TOUS-LES-MOIS: the edible root of a kind of canna, which is sometimes used as a substitute for arrowroot.

TOWEL GOURD, or **Loofah:** a fruit resembling a large, long cucumber, grown in several of the Southern States and warm climes generally. When dried and freed from its hull and seeds, its network interior becomes the "loofah" of commerce, used as a rough sponge or flesh brush. The fibre is also employed for insoles, surgical bandage material, etc.

TRADE-MARKS. Trade-marks deserve the earnest attention of the grocery trade. Their protection covers every proprietary article which it handles, and that means the greater portion of the stocks. The frauds who try to impose upon the dealer, and, through him, upon his customers, consist very largely of trade-mark violators. The advertising of this age, which works so directly in creating a demand for a wide variety of articles, heretofore unknown or unappreciated, could not exist in any such volume if it were not for trade-mark rights, and the protection which the law throws around them.

Trade-marked goods are a great help to the dealer. Handsomely labeled, securely packed, quickly handled, readily listed and priced, widely advertised to the public, they have doubled and trebled the variety of the grocer's stock and the number of dishes on his customers' tables. Some old fogies sigh for the good old days when the public knew nothing, and the dealer, in his narrower lines, was enabled to impose on it what he would. Then, sugar loaves were cut, spices were ground and coffee roasted in the narrow limits and the thick darkness of the rear of the store. In those days they bound apprentices, and sold dried mummy as medicine! The modern grocery, with its wonderful conveniences, its splendid stock and its easy control of the world's delicacies, is a most enjoyable contrast.

Trade-mark properties are almost entirely of modern creation. When merchants dealt in natural and unchanged products of the ground, there could be no trade-marks. As civilization advanced, and men prepared and preserved foods in a variety of ways, secret processes were resorted to, but they gave very small protection and necessarily

restricted the possibility of wide sale. Printing was known as an art long before it was used to any extent in producing the distinctive labels which were a necessary step to general identification, and to the possibility of widespread sales of proprietary articles. The real development of trade-mark rights, trade-mark protection and trade-mark growth did not come until the latter part of the nineteenth century, when the traffic of steamships and railroads had belted the globe, and printing and its processes had made it possible to produce handsome, distinctive labels for the simplest articles.

It was at this time that modern advertising took its first great strides, and that the struggle for better protection of the great properties which had grown up in proprietary articles forced courts and lawyers to consider, and practically create, a system of trade-mark law, one of the maxims of the law being that "wherever the law finds an injury, it is bound to find a remedy."

Any injury to a trade-mark is an injury of a most widespread character. It assails truth, filches property, degrades trade, makes a tool of the dealer, deceives the public, lessens the confidence of the people, generally tends to the adulteration or reducing of the quality of the goods and unsettles honest values. All dealers should discountenance any attempt at imitation, or substitution, or the various pretenses allied thereto.

The laws of trade-marks are in one way simple and in another way very intricate. They are rarely understood as they should be by the very owners of trade-marks of great value. To men of exact and clearly defined honesty their limits seem simple, but to the shifty dealer it is very hard to explain why Smith should be restrained from imitating Jones almost to the extent of impersonating him at the bank.

Primarily, the trade-mark represents the individuality of its owner—stands for him as his surname does, defines his connection with his merchandise, indicates his responsibility to the world for its quality and value. If he would have his own name respected and protected, he must keep it clear of entanglement, and manfully defend it. Even the poorest men (if their poverty be limited to mind or money and not to morals) are careful in this, and when men accumulate large properties or rise to large power, they are scrupulously jealous in this regard. Trade-mark owners, however, too frequently neglect to oppose infringement of their rights. Failing to give careful study to this valuable property, they make radical errors from which they could be saved by courage, more definite knowledge and a willingness to consult proper legal counsel.

It is a simple but too often little understood principle that when a manufacturer ceases to have any interest in his own trade-mark (as, for instance, when leasing it to another without retaining any direct interest in it himself) and it is continued by others, they take his place before the community as the responsible persons behind the trade-mark, and his right in it lapses as theirs becomes established by custom. Indeed, a trade-mark cannot be legally transferred or its use licensed unless there goes with it the business or good-will which it embodies; for, unless there is transferred with the trade-mark that which makes the representation it conveys true in the hands of the person to whom it is transferred, it is only a license to lie, which the law will not tolerate. The transferee gets nothing, and the original owner has abandoned his trade-mark.

An article cannot be trade-marked and patented and still hold both protections. Such an attempt at a double protection has not infrequently been made by over-careful manufacturers, or those who did not have proper counsel. When a man patents an

article, the name he gives to it becomes the name of that thing. When the patent expires, everyone may make the thing and call it by its name.

A trade-mark belonging to a partnership will generally belong equally to both partners upon dissolution, unless an agreement assigns it to one or the other. In case of death the survivor owns it absolutely, except where an arrangement of partnership otherwise provides, or its value can be appraised as part of the estate.

A trade-mark must be truthful, although the truth is sometimes regretfully slender. The law will not protect an article trade-marked as an "Oil of Almonds" when there is no oil of almonds in it, but the truth may be technically saved, as William Dreydoppel used to say of his rival's soap: "Youst a pinch of borax in it, youst enough to swear to"; nor will the law protect a brand of "California Oil" if it can be shown that it has no connection with California.

These few instances show that trade-mark law stands for truth, for personal responsibility, for an honest individuality and for exact dealing with the public and the trade; but those who own, or intend to own, trade-mark property should seek the highest advice, as surely as they would take that of a banker if they were about to invest, or of a doctor if they were ill.

TRADING. See article on BARTER.

TRAGACANTH: a gum, white or of red tint, obtained from numerous varieties of the Asiatic tragacanth plant. When soaked in water it swells to a thick mucilage resembling flour paste, and as such is employed in pharmacy (as an emollient for toilet creams, etc.), the textile industry, etc., and to make gum paste ornaments for cakes, being for the last-named purpose mixed with starch and sugar.

TREACLE. See general article on SYRUP.

TREE TOMATO: a Jamaica fruit-vegetable, purplish-red and about the size of a small, oval-shaped tomato. It is eaten both as a fruit—raw when fully ripe, stewed with sugar, etc.—and also in any way suitable for tomatoes.

TREPANG, or Bêche de Mer: a general name for several kinds of tropical sea-slugs, varying in length from six inches to two feet, enjoyed as food in China, the Philippines and other oriental countries. They are prepared by cleaning, boiling, smoking and drying, being especially popular in the form of a thick soup.

TRICHINAE: are small parasites or worms, barely visible to the naked eye, which are found sometimes in pork, and which, if they enter the human system, breed rapidly, bore through the walls of the intestines and bury themselves in the muscles of the sufferer. They can exist in extraordinary numbers in the smallest compass—twenty millions or more have been estimated as existing in one diseased person.

This parasite is more common among Germans than any other nationality, probably because of their habit of eating smoke-dried sausage and other preparations of pork which are only partly cooked. Neither pork nor pork products of any kind should ever be eaten in a raw or semi-cooked condition. Heavily salted meats are generally free from them, but the heat engendered in careful and complete cooking is the only sure preventive.

Furthermore, reliance cannot be placed in the process of cooking in the case of large joints, as the heat attained in the center is not always sufficiently great to kill the trichinæ. Small pieces thoroughly broiled over a strong fire, are rendered entirely innocuous, because heat of high temperature permeates every portion, and small joints thoroughly boiled or baked are also safe, but it is best to give a second cooking—as broiling, etc.—to portions cut from a large joint.

When pork from an animal in an otherwise normally healthy condition has been thoroughly cooked, the presence of the destroyed trichinæ does not in any way impair its flavor, digestibility or food value, for they exist in the flesh only in a dormant, sac-enclosed condition—they do not enjoy active existence or breed until they find themselves in the digestive organs of man, or other mammals. It is not any poisonous quality in the tiny bodies of the live trichinæ as present in the pork when consumed that renders them dangerous to health—it is only the fact that in the digestive organs they awake to life and breed millions of others, and it is these millions which do damage by boring through the walls of the intestines and into the muscles of the victim to find a place in which to enclose themselves in tiny sacs or coats, there to sleep in apparent lifelessness, as did their progenitors. If the trichinæ are prevented from awakening and breeding by being killed by the heat in cooking, they are no more objectionable than similar tiny parasites often found in the flesh of herbivorous animals.

Trichinæ are frequently found in many other omnivorous animals, but this has little interest from the standpoint of the ordinary individual, as the pig is the only member of this class which is an article of popular diet.

TRIPE: is the fatty lining of the stomach of several food animals, prepared by thorough cleansing and boiling. It is easily digested and of agreeable flavor and is almost equally popular fresh and pickled. Beef tripe is the kind most generally used. It should be thick, white and fat—if dark and thin, the quality is poor. The "Honeycomb" part is considered the best, but this is principally a matter of individual opinion.

Calf's tripe is more tender than beef tripe, but only small quantities are marketed. Sheeps' stomachs are used in the preparation of HAGGIS (which see). Pigs' stomachs are utilized in *Chitterlings* (see SAUSAGES).

TROUT: a species of salmon found principally in fresh water. The chief American types are the Common Brook or Speckled (*see Color Page opposite* 540), Lake or Mackinaw, Dolly Varden, Rainbow and Rocky Mountain. The three generally accepted classifications of the Eastern markets are the "English," in season from January to March; the "American," January to the middle of July; and the "Brook," or Speckled Trout, April to August. "Mountain Trout" is the title applied to the genuine *wild* Brook Trout, the most highly esteemed by connoisseurs. The tint of the flesh varies from pink, considered the choicest, to white. The pink is generally that of the wild fish, the liver diet being perhaps responsible for the white meat of those "raised."

The varieties which the Common Brook or Speckled Trout exhibit in tints and spots has led to the supposition that there are several distinct species. This is largely incorrect, as trout transferred from one locality to another soon change their colors. The Brook Trout is an especially voracious creature and affords great sport to the

angler who fishes with a fly. There is a fair demand in some sections for canned brook trout.

The Lake Trout, or "Mackinaw Trout," is a large fish often attaining a weight of 50 to 60 pounds and of fine flavor, caught in the Great American Lakes. Considerable quantities are salted and sold in brine by the barrel.

Salmon Trout is a name best reserved for the Steelhead Salmon, but it is also variously applied in some sections to several members of the trout family proper—especially to the Lake, the Dolly Varden and the Rocky Mountain.

TROYES. See general article on CHEESE.

TRUCK: a term used in the Middle States to designate all vegetables and fruits. A "truck farm" is one on which garden vegetables or fruits are raised.

TRUFFLES. The truffle, a kind of fungus, may justly be described as one of the most curious and least understood articles of food. We know that it grows in clusters a few inches under the ground—something like a potato, but without roots or upper parts of any description—but the secret of its production has never yet been fully ascertained, though it has been eaten and enjoyed for centuries. Some types bring very high prices—up to four dollars or more a pound—yet attempts to grow them commercially have never proved successful.

The most famous variety is the Périgord Truffle, which takes its name from the former French Province of Périgord, the greater part of which is included in the present Department of Dordogne. Its high reputation is due to its especially delicate aroma and its uniformly good quality and regularity of appearance. It varies in size from that of a walnut to a medium size potato, is round shaped, with a rough warty exterior, and inside is of a blackish grey or black, according to age, marbled with fine white veins. It grows most freely in forests of *Chêne Nain* (a dwarf oak), beech and some other trees; where the soil is chalky or clayey, light in composition and comparatively free from stones, and preferably on sloping ground. For a good crop, warmth and plenty of rain are essential.

Truffles so freely absorb the nutriment of the soil that nothing except the trees which give them shade is able to grow in the vicinity, so one recognizes a *Truffière* or Truffle-ground by its bare and generally somewhat cracked surface. As, however, the

Périgord truffles

Hunting Truffles with Trained Hogs.

Sorting and Putting-up in Bottles and Cans

truffles themselves show no sign above the ground, they are generally located by trained dogs and hogs, held in leash, who find them by the peculiar aromatic odor of the mature specimens, ascending through the loose soil above them. The harvest takes place in winter and lasts for three or four months.

Various kinds of Black Truffles are found in other parts of France, especially in the Dauphiné District; Germany, Spain, England, California and other parts of the world, but they are classed as of lesser value.

The White Truffle is a minor German and English variety, which grows half above ground, is of whitish-red tint and generally of the size of a large walnut.

The Italian Truffle, of somewhat different type, is brownish outside and liver-colored or yellowish within. It is generally of about the same size as the other kinds, but occasionally attains to much greater proportions, up to masses of from 10 to 12 pounds. It has, however, comparatively little flavor.

The flesh of all varieties is meaty rather than vegetable in character.

The preparation of truffles for the market consists in freeing them from the earth which clings to them, washing them with special brushes, grading them by size and quality and, generally, putting them in cans, boxes, glass jars or bottles, etc., for the "cooking" necessary for their preservation. Long experience and great care are required to preserve truffles without losing or impairing their delicate qualities.

The most highly rated are those which are the largest, roundest, blackest and most highly perfumed, and marketed with the skins removed (*Peeled Truffles*). The next in grade are those which have been simply brushed (*Brushed Truffles*), and then the pieces and "Parings."

Truffles are used chiefly for garnishing and dressing. The choicest qualities are very expensive, but the Parings, the residue from the preparation of Peeled Truffles, are sold at comparatively low prices and will answer all ordinary requirements.

If only a few truffles are taken from a freshly opened can or jar, the remainder should be covered with sherry or other white wine, and the can itself with greased card or paper so as to avoid contact with the air. This is practising true economy, for the truffles are not so liable to spoil, and the wine can be afterwards used in the preparation of sauces. If the opened box is to be kept for a considerable time, the advice of a well-known chef is to cover them with boiling bacon fat, or fat of poultry. As, however, none of these methods is absolutely sure to preserve the aroma, etc., it is preferable to purchase in quantities to suit one's requirements, so that the entire contents of a can or box are consumed shortly after opening. This is generally possible, as truffles are put up in cans or boxes of many sizes, the smallest being very small indeed.

TUNA (Cactus). See article on PRICKLY PEAR.

TUNNY FISH, *Thon Mariné, etc.*, the Pacific Coast "Tuna": a very large fish found in the Mediterranean, and along the Atlantic and Pacific coasts of North America. It often attains a length of from twelve to fifteen feet and a weight of one thousand pounds and upward. It is generally caught in nets arranged in funnel-form, the fish entering the wide mouth and being gradually driven to the narrow end, to be there killed by lances and harpoons. It is pearly black or dark blue above, with silvery sides and white or silver-spotted dusky on the under-parts. The flesh is considered a delicacy and is eaten both fresh and preserved, in cans and otherwise, in salt

and oil. If the finer meat in the imported cans is thoroughly chilled before opening and then cut in dice for use in salads, it easily passes for chicken.

The Tunny also yields a considerable quantity of oil, twenty gallons being sometimes obtained from a single fish by boiling the head and belly.

TURBOT: a large, fleshy, English salt-water flat-fish in season from January to March. It resembles our chicken halibut, but is rounder and lighter in appearance. The skin is of gelatinous character, dark and marked with bony spots on the upper part, and white below. The flesh is white and delicate, tending, however, to darker, and being considered more choice, under the upper skin. Some specimens reach thirty to forty pounds in weight. A limited quantity is annually imported.

What is called "American turbot" is generally Chicken Halibut.

TURKEYS. The turkey is a native of North America, and wild birds are still found in some sections. It has been domesticated here and in Europe for more than three hundred years. It is distinguished by its bare head, wattled neck, short curved bill, handsome plumage and large size—the male being further marked by the conical flesh caruncle surmounting the bill, the tuft of long hair hanging from the base of the neck and the broad rounded tail, at times erected and spread like a fan as he struts about with plumage puffed out and wings rubbing on the ground, uttering his loud "gobble."

The two principal varieties of the wild turkey are the *North American*, the original species of the Eastern United States, whose plumage is a blending of black, bronze and coppery gold, and the *Mexican*, of blacker color shaded with bronze and with feathers tipped with white. There is a third important wild type—the most beautiful of all—known as the *Ocellated* or Honduras, a native of Central America, but it has never been successfully bred in more northern countries. The wild turkey is by far the largest of all American game birds.

A prize Bronze Turkey cock

All our domestic turkeys are descended from the wild North American and Mexican, principally from the former, and it has been found advantageous to cross the domestic with the wild bird from time to time to strengthen the breed, the size being thus increased and the flavor improved. European turkeys are descended chiefly from the Mexican bird.

The six standard American domestic varieties are the Bronze, Narragansett, Buff, Slate, White and Black. Of these, the first two are the best known.

The *Bronze Turkey* is the largest and most handsome type. Its weight for the market ranges as high as thirty-six pounds, and some older farm birds have exceeded

forty pounds. The female has the same black-bronze coloring as the male, but in more subdued tints.

The *Narragansett*, next in size, is distinguished by the greyish effect of its plumage, produced by the grey bands tipping its black feathers. The female is of similar but lighter coloring.

The *Buff Turkey* is generally of a light chestnut, mixed with white and darker red or brown. The *Slate* is of ashy blue, with black spots or markings. The *White* is, in pure breeds, entirely white, except for the black beard on the breast. The *Black* is nearly as dark in plumage as the name suggests. All of these varieties average from ten to twenty-five pounds in full adult weight.

Spring turkeys are generally in the market from August to November. The older birds are most abundant during the six months from September to February.

A young turkey, to be desirable, should be plump and fat, and the end of the breast bone should bend easily. Many people are of the opinion that the flesh of the young male is better flavored than that of the female.

Very large turkeys are handsome and showy on the poultry counter, but for general family trade and use, those of medium, or rather small, size are usually the most convenient.

Turmeric

TURMERIC: is the yellow root-stock of a plant of the ginger family, marketed both in root form and as a powder. It is the principal ingredient in curry powders and is also used for mixing with mustard and other spices. Its yellow color, after extraction known as *Curcuma Oil* and *Curcumin*, is employed as a dye-stuff, in chemistry, etc.

TURNIP: the root of a plant largely grown in every temperate climate. It ranges from the size of an orange to forty pounds in weight, and from varieties which are popular as a table vegetable, either separate or mixed with others in soups and stews, to types that are grown exclusively for feeding cattle. The most delicate flesh is found in medium-sized white turnips of good strain, but many people consider such roots insipid, and prefer the more strongly flavored yellow types. They should always be firm to the touch when purchased. The season usually commences in June.

Young turnip tops generally make good "greens." The tops of sprouted white turnips are excellent for salads, needing hardly any vinegar.

TURNIP-ROOTED CABBAGE. See Swedish Turnip.

TURPENTINE: is made chiefly from the gum of the Longleaf Pine, the principal sources of supply being the states bordering on the South Atlantic and the Gulf States to eastern Texas. By the Cup-and-gutter System, which has in most sections taken the place of the wasteful Box System, the sap from the "chipped" surface of the tree is conducted by the gutter strips into earthen cups suspended from nails driven into the trunk. In the old Box System, the receptacle for the sap was obtained by chopping out a "box" in the lower part of the trunk, the result being the ultimate

destruction of an almost incredible number of trees. The sap distilled gives "turpentine," or Oil or Spirits of Turpentine, the solid residue being Rosin.

Cups and Gutters used for collecting Crude Turpentine—the tree shown is an exceptionally productive example, a single "Cup" being sufficient in most cases

TURTLE: a marine reptile much esteemed for its meat, which is used in the form of steaks, stews, soups, etc. The Green Turtle leads all other varieties in the market, and is sold alive, dried and canned. Only the "cow" is generally sought, the flesh of the bull turtle being too coarse to be especially desirable. The majority of those brought alive to the Eastern markets come from Florida, Cuba and the British West Indies, the large South American supply going chiefly to Europe.

The Green Turtle has been known to grow to a weight of 700 pounds or larger, but these very big specimens are seldom handled commercially. The average market weight ranges from 50 to 300 pounds, those between the two extremes being generally preferred, being considered choicer in flesh as well as much easier to handle. Only about one-quarter of this weight is, however, generally serviceable—the intestines, blood, shell, etc., accounting for the greater part of the bulk.

For shipment, the turtle's flippers are tied together and it is placed on its back. This position is essential to keep it in good condition—if it were not tied, it would speedily exhaust itself by continually thrashing about, and if it were laid on its stomach on a hard surface, it would suffer from the weight on, and friction of, the under shield, which consists only of a thick skin. No attempt is made to feed it en route, as under ordinary conditions of transportation it will not eat; but this is no hardship, as Green Turtles can easily go for six weeks without food, and for three weeks or more without suffering any diminution of weight.

For land transportation in cold weather, the turtle is usually sewed into burlap bags lined with excelsior or dried seaweed, only the head being left out. It is also in some cases crated for further protection.

If to be held for any length of time after receipt, turtles are loosed and kept in a dark, warm place—preferably, if the weather is warm, where it is possible to cover part

Turtles on a "crawl," Kingston, Jamaica

of the floor with a few inches of salt water. In some localities they are kept in "coops" built under docks, etc.

Calipash is the flesh which belongs to the upper shield—it is fatty and gelatinous in composition and of a dull green tint. *Calipee* is the lighter yellowish meat of the lower shield.

For fine soup, only the Calipash and Calipee are used—this, when properly prepared, being mixed with ordinary soup stock to make the "Turtle Soup" of the restaurant and club. "Turtle Steaks" are cut from the shoulders and flippers.

Canned Green Turtle, put up in cans and jars, may be either "mixed meat"—pieces of Calipash, Calipee and steak—or "clear green" (Calipash only), etc.

Green Turtle Oil is frequently employed as a liniment.

The full-grown turtle may be classed with animals such as the elephant and the higher carnivora, in that it need fear no enemy but man. When once its upper shell has attained its armor-like strength, it is, under ordinary circumstances, safe from the attack of any other living creature. It is furthermore so gifted by nature as to be almost independent of external conditions—it can apparently live with equal ease under water and on land, with light or without it, and, as already noted, for weeks at a time without food.

Logger Heads and *Snappers* are cheaper varieties of turtle much used in soups. The Logger Head grows to a large size. The Snapper generally weighs from 10 to 15 pounds, though sometimes reaching 50 pounds or more.

TWINE. See Rope.

UDO: a Japanese plant recently introduced into the United States. The most acceptable method of preparation is to slice the shoots very thin, stand in ice water

GREEN TURTLE

for some time and serve with French dressing. They have a fresh, agreeable flavor and the crispness of young celery. Their value is enhanced by the fact that they can be stored for winter use. In Japan, the stalks are eaten both raw and cooked.

ULLAGE: the quantity that a cask or other package of liquid lacks of being full—*i. e.*, the empty portion of a cask above the liquid which it contains.

UNLEAVENED BREAD. See sub-head in article on BREAD.

USQUEBAUGH. See introductory paragraphs of article on WHISKY.

VACHERIN—*à la main* and *foudu*. See article on CHEESE.

VALENCIAS. See under first sub-head in general article on RAISINS.

VANILLA. The true vanilla bean from which genuine Vanilla Extract is made, is the dried pod of the Vanilla plant, a climbing vine of the orchid family. The best beans are those from the cultivated, flat-leaved vanilla vine, found at its highest excellence in certain valleys near the eastern coast of Mexico, the most noted of all being the wonderful Valley of Papantla, in the State of Vera Cruz, a depression of more than six thousand feet and one of the richest spots on the face of the globe.

In its wild state, the vanilla orchid attaches itself to anything at hand—rocks, shrubs and trees—intertwining its long fleshy stems and tapering leaves, growing very freely under favorable conditions but producing fruit that is rank and inferior in flavor. Under cultivation, it is trained over trellis-work or around trees (see *Color Page*). The flowers resemble the tuberose in appearance, color and fragrance, and from each blossom springs a little pod, which grows rapidly until, if it reaches maturity, it looks like a cross between a big bean and a thin banana.

Vanilla picking begins in November and continues with increasing importance through December and January, the pods being gathered before they are fully ripe.

The green beans when gathered weigh from 50 to 60 pounds per thousand, but dwindle in the process of curing, so that their weight finally ranges from 10 to 12 pounds per thousand, and their size has shrunk from a circumference of one to two inches to an attenuated pod not much larger than a pipe stem.

The beans are first "sweated" and cured in special ovens—these having largely taken the place of the former method of sweating between blankets laid in the sun. Then comes a gradual browning by exposure to the sun until the pods attain a rich chocolate color, bordering at times on black, and a final drying under cover for twenty to forty days. During all this time the beans are constantly inspected, each pod being given individual attention to see that it receives just the right curing, being removed or further treated, as may be necessary.

The dried beans—long and slender in shape, soapy or waxy to the touch and highly aromatic—are put up in bundles of twelve to eighteen ounces each and pressed close, the ends being rounded by turning the tops inward. The very choicest are held for another month or two and are then packed in cans and shipped in cedarwood cases.

The inferior beans—those of poor size or quality—are cut into pieces and sold at one-half to two-thirds the price of the best grades. They are known in trade circles as "Cuts." Those which have split during the curing process are sold as "Splits."

After storage for a short time, the beans generally show a white frosty coating of vanillin crystals. Neither the extent of the frosting nor the percentage of vanillin, the active principle of the bean, is however a test of quality, as it is the peculiar combination of the vanillin with other flavors and odors which gives such high value to the Mexican beans—in vanillin itself they do not, as a rule, show as much as the cheaper East Indian varieties.

After the *Mexican* beans come the three following classes, named in the order of their commercial value: *Bourbon*, from the French East Indian Islands of Bourbon, or Réunion, Comores, Madagascar and Seychelles; *South American*, from the French West Indies, and *Tahiti*, or wild Vanilla Beans, from the French group of Society Islands, Pacific Ocean. They are shorter than the Mexican and the lower grades a great deal cheaper. The Tahiti hardly deserves the name, as its flavor resembles prune juice rather than Vanilla, and its fragrance, though indisputable, is rather that of heliotrope.

In making Vanilla Extract, the beans are cut fine and immersed in a mixture of grain alcohol and water. For the ordinary extract, the liquid is poured off a few days later and bottled, but a few manufacturers of the highest grade product allow it to remain in the casks for months and use the same casks for years, on the theory that this process gives a superior aroma. Many extracts also contain small percentages of sugar and glycerine.

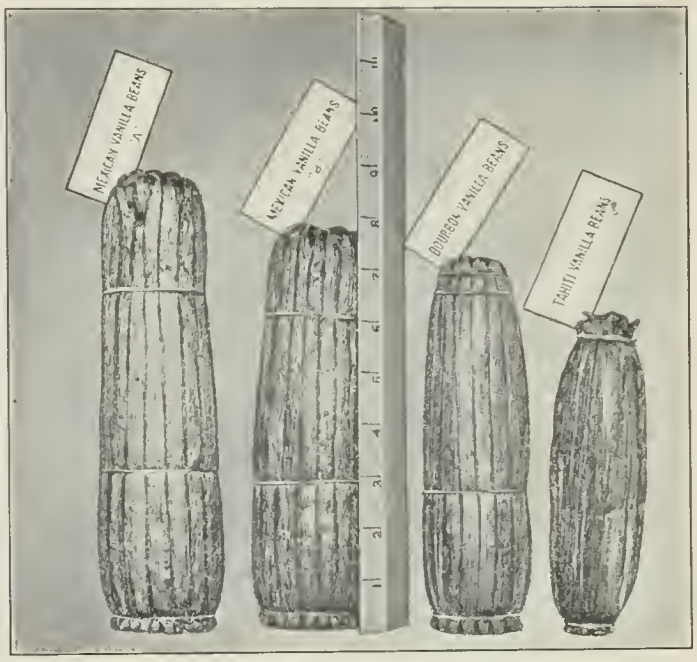
PHOTO BY AMERICAN TRADING CO

Bunching Vanilla Beans in a Mexican packing house

VANILLA (Orchid and Bean)

The best vanilla extracts are made from high-grade Mexican beans. Medium grades come from lower quality Mexican beans, Mexican "Cuts," etc., and the other varieties of true vanilla beans, or their blends with Mexican beans. Low grade and imitation products are manufactured from Tahiti beans, artificial vanillin, coumarin (see TONKA BEAN), etc. Eugenol, a synthetic product containing the flavoring principles of Oil of Cloves, is the source of the bulk of the artificial vanillin used.

The vanilla bean is also sold to a small extent, whole and powdered—the whole bean separately in glass tubes and the powder in cans or bottles—but a good extract is more serviceable for the average consumer.



Mexican, Bourbon and Tahiti Vanilla Beans

It is poor policy to either sell or buy cheap or imitation extracts. The genuine are infinitely superior in flavor and aroma and a little goes as far as a lot of the adulterated kind.

VARNISH. The chief ingredient of the best varnish is gum copal, a substance exuded from the copal tree, which is found in Mexico, Africa, Brazil, New Zealand, India and the East Indies. The East Indies and New Zealand are the principal sources of the United States supply. It resembles amber—which is superior to it, but is too expensive for use in ordinary commercial varnishes.

An interesting fact is that the fresh gum is *not* the high-grade gum copal of commerce—it is, on the contrary, rated as decidedly inferior. The most highly considered is the fossilized gum that exuded from trees a thousand years or more ago and has since remained buried in the earth. It is found by probing the soil with sharp-pointed instruments made for the purpose. Its price ranges from $200 a ton up, and the annual importations from ten to thirteen thousand tons. It is said that the shipments from New Zealand during the last quarter of a century have amounted to more than the trees now growing there could supply in ten thousand years.

Linseed oil and turpentine are, after gum copal, the principal varnish components. To unite these elements requires elaborate apparatus to melt the copal gum, and great skill in the entire manufacture.

Other varnishes are made by combining various gums or resins, as cowrie, or "kauri," and dammar, or their combinations with oil, in any one of a number of solvents—alcohol (both grain and wood), benzine, carbon bisulphide, etc. Among the coloring agents used are annatto, indigo and saffron.

Varnishes are variously classified, (1) by the gum component, (2) by the solvent, (3) by the chief uses. "Spirit" varnishes are those which are quick drying.

VEAL: is the dressed carcass of a calf. It requires close attention on the part of the retailer, as it is much more difficult to keep than beef. "Hog-dressed" veal is the carcass left in its hide after being trimmed and cleaned—in that form it best retains its moisture and flavor.

The carcass is generally dressed and cut in accordance with one or other of the diagrams below, but local customs vary greatly. *Diagram I* is a popular Eastern method; *Diagrams II* and *III* are adapted from a bulletin of the U. S. Department of Agriculture. The Chuck (Diagram III) is sometimes cut so as to include part of that designated in the same diagram as Shoulder, thus following more nearly the method of sub-dividing beef. In many localities, the fore and hind shanks are known as the "Knuckles." See also *Color Page*, opposite.

The flesh should be pink and firm. If it is bluish or flabby, it should not be accepted. It should always be eaten fresh, as a poisonous principle is generated in it if improperly kept. It also requires to be well cooked to fully develop its nutritive qualities.

The most desirable veal is that of calves from four to six weeks old and known as "milk-veal." After six weeks, the calf is fed on other foods and its flesh gradually becomes darker and less juicy.

"Bob veal," that from calves under four weeks old, should never be eaten, as it is unfit for food. Stringent laws have been passed forbidding its sale.

The finest veal in the world is that grown in Switzerland and Holstein, Germany. The reason is found not only in the high breed of cattle, but also in the feeding of the young calf—it is, for example, not unusual for raw eggs to be included in its diet!

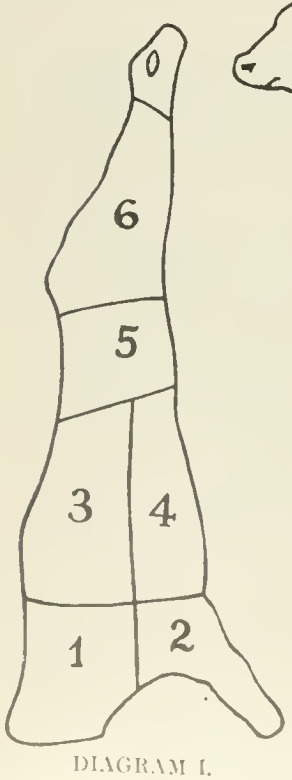


DIAGRAM I.

DIAGRAM I.

1. Neck Piece
2. Shoulder
3. Ribs or Rack
4. Breast
5. Loin
6. Leg

Forequarter—1, 2, 3, 4
Hindquarter—5, 6

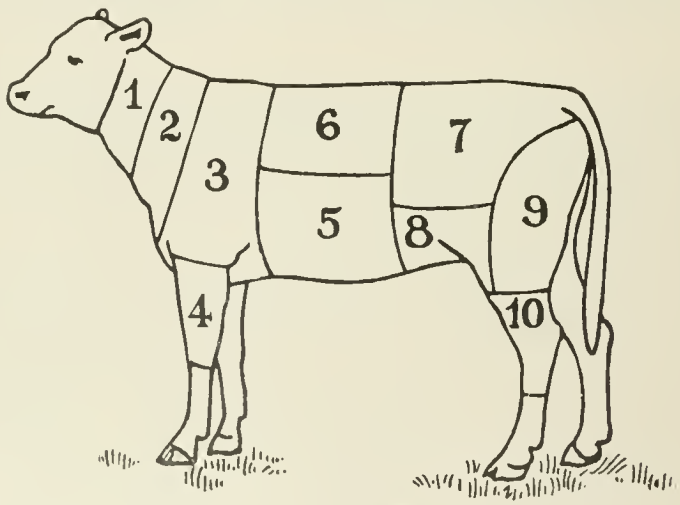


DIAGRAM II.

DIAGRAMS II AND III.

1. Neck
2. Chuck
3. Shoulder
4. Fore Shank
5. Breast
6. Ribs
7. Loin
8. Flank
9. Leg
10. Hind Shank

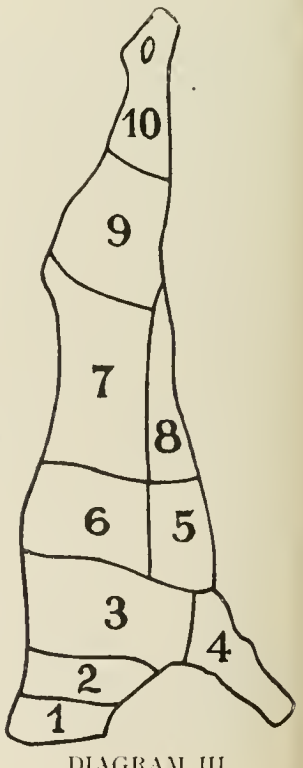


DIAGRAM III.

(1) Rack
(3) Loin

VEAL

(2) Leg
(4) Shoulder

VEGETABLES. The average American housewife is gradually increasing her use of vegetables—to the advantage of the general health of the community—but there is room for still greater appreciation of them as part of the every-day diet. In addition to their service boiled, baked or fried to accompany the meat, a delightful variety is obtained by their free use in soups, omelettes, salads, etc.

In making soup, some tender young vegetables, such as very small carrots and turnips, may advantageously be added whole, both leaves and roots, and cooked in it. Others, such as green peas, cauliflower in small sprigs, lima beans and fancy cut mixed vegetables, are best cooked separately in a very little water and added shortly before serving. As "vegetables," many pleasing dishes can be made by mixing two or more kinds, either during cooking or before serving, according to circumstances. Succotash, a mixture of sweet corn and lima beans, is a popular example of this idea, but it is only one of numerous combinations agreeable to the palate—among them, carrots and peas, string beans and lima beans, corn and tomatoes, tomatoes and okra, etc.

The tops of beets, turnips, radishes, etc., should always be saved. Thoroughly washed, they can be used as greens, if young, or added to soups, if more mature.

Baking, for vegetables such as potatoes used principally for separate service, is the most satisfactory method of cooking from the standpoint of food values, as little if any food component is lost in the process—the only diminution being in the quantity of water by evaporation. In boiling, there is always a certain loss into the water—hence the practical advantage of cooking suitable kinds in broths and soups.

Tubers, roots and all green vegetables should be firm and crisp before cooking. Wilted vegetables may generally be freshened by soaking in cold water—the time necessary depends on their age, varying from a few minutes to several hours.

"Head" vegetables, such as cabbage and lettuce, should be soaked before using, head downward, in cold salted water containing a little vinegar. This will draw out any worms, caterpillars, etc.

All vegetables, except dried peas, beans and similar products, should be placed in boiling water. If the water is to be thrown away afterwards, it should, in a majority of cases, be maintained at the boiling point all the time so that as little as possible of the food value escapes. Rapid boiling is suitable for most varieties, but it should be more gentle for cauliflower and young tubers, to avoid breaking them, and should be reduced to a simmer for shelled peas and beans. Winter vegetables—potatoes, beets, etc.—need considerably longer cooking than the same kind in summer, in order to bring out their full merits.

It is advantageous to add a pinch of soda to the water used for cooking green vegetables. This facilitates the cooking by softening the water and helps to retain the green color.

The food values of vegetables vary greatly, from some which are highly nutritious to others whose principal—and very important—service is the assistance their moist bulk gives to the digestive organs. The characteristics of all the best known varieties are discussed in separate articles under their respective headings.

Retailers who handle vegetables and fruits are sometimes termed "green grocers." Grocers, generally, have discovered the profit to be derived from the addition of green goods to their selling lines, and the public that they can often purchase fruits and fresh vegetables from the grocer at a cheaper rate than from the fruit merchant. It requires, though, a good deal of care and attention to handle green stock profitably and satisfactorily, and a grocer who is not in a position to devote a proper share of both

to it, had better confine his energies to staple goods. It is important to have the earliest supplies as soon as Bermuda, Florida or other sections send them in. Equally so is it, generally, to handle only the best—sound, handsome fruits and fine fresh vegetables—even if a good, round price is necessary. Leave trash lots or dead-ripe stock for hucksters and jelly-makers.

The stock should always be lighter than the demand—in which it differs from the balance of the grocer's stock. Late enquiries for perishable goods are better unfilled than prepared for, since the latter means in most cases that the grocer will be still carrying part of his supply when he closes, and will have deteriorated stock on his hands with which to commence business next day.

A large ice chest, suitably divided, is a desirable aid to the handling of fruits and berries.

Many merchants keep their green vegetables fresh and crisp by occasionally spraying them with water. Judgment and experience must be exercised in so doing, or the result is liable to be the reverse of satisfactory. Berries will soften and often mold if so moistened; tomatoes also will soften; string and wax beans will grow tough if applications are frequent, and white wax beans will show rust marks where the water dries on them. Radishes will take a lot of water and be the better for it, but their tops are liable to rot unless care is exercised. On the other hand, mint, spinach, lettuce and similar vegetables will generally improve with sprinkling and, if they have become dry, by soaking in water.

Green peas never need sprinkling, but they require a cool place, as heat dries and bleaches them.

Beets need very little water—they will ordinarily keep green and fresh for several days.

All vegetables, except those for immediate sale, should be stored in a dark, dry place of cool, even temperature.

Dried or *Evaporated Vegetables* (see COMPRESSED VEGETABLES) are now made in considerable quantities, but the principal consumption is in mining regions.

VEGETABLE GELATINE or Isinglass. See KANTEN.

VEGETABLE MARROW: a kind of squash, eaten as a vegetable, which is very popular in England, but is not often seen here. The true English type is, when full grown, generally about nine inches long and four inches in diameter, with green to yellow rind and light-colored flesh. The Italian variety reaches a length of about twenty inches, with mottled, dark-green rind and orange flesh.

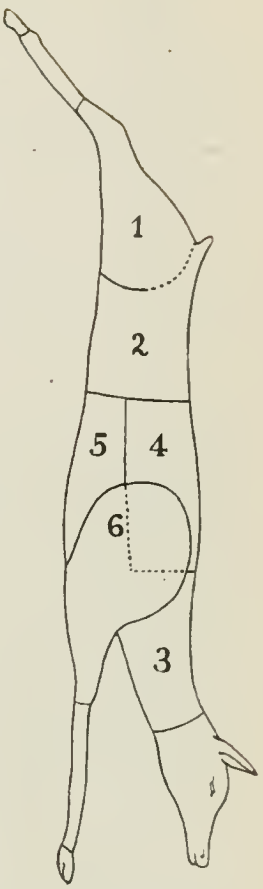
Vegetable Marrow

VELOUTÉ (*"Velvety"*): is rich chicken and veal broth, thickened and strained until of smooth appearance. It is the principal "white" sauce, as Espagnole is the chief "brown" sauce.

VENISON: the flesh of all kinds of deer. That of plump, forest-fed animals is considered the choicest. Stall-fed venison is usually poor and coarse. The buck is generally best from May to September, and the doe from September to December. The animal should be at least five years old.

The meat is improved by moderate hanging, but care must be taken to see that it is not so old as to be stale. The vein in the neck should be bluish, not green or yellow, and there should be no offensive smell under the kidneys. Either of these defects indicates staleness. The retailer's wisest policy is to buy it as fresh as possible. On receipt, it should be wiped dry, dusted with a floury cloth and hung, cut-end up, in a cool, airy place. If to be kept for any considerable length of time, it is advisable to dust with powdered ginger instead of flour. If "musty" when purchased, it should be immediately washed with lukewarm water, or lukewarm milk and water, wiped dry and dusted with powdered ginger.

The accompanying diagram illustrates the generally accepted method of cutting up a side of venison: 1—*Leg;* 2—*Loin;* 3 and 4—*Neck;* 5—*Breast;* 6—*Shoulder.*



A "haunch" of venison consists of the hindquarters—the leg and loin (Nos. 1 and 2). The best neckpiece is No. 4. The head and feet make excellent soup.

VERMICELLI. See article on MACARONI.

VERJUICE: the juice of unripe fruits, especially grapes and crab apples, either separate or together. It was in olden times considered a pleasant beverage, but is now used only in cooking.

VERMOUTH: a light wine, slightly fortified and sweetened and aromatized by the addition of herb extracts. It is drunk as a light liqueur wine and used in the making of cocktails and other "mixed drinks." Both French and Italian vermouths are sold in considerable quantities in this country, but the Italian is the original and considered the choicer. The greater part of the commercial supply of Italian Vermouth comes from Turin, but the very finest is that from the Island of Elba. Hungarian Vermouth is obtained by steeping spices and wormword (absinthium) in old wine.

VICHY. See article on table and medicinal MINERAL WATERS.

VIENNA BREAD. See sub-head and *Color Illustration* in article on BREAD.

VINEGAR: may be briefly described as a low percentage dilute natural acid—generally acetic acid. It is obtained by the conversion of the alcohol contained in a liquid—wine, cider, beer, etc.—into acid as the result of the activity of a class of acid-producing bacteria. The cloudy, stringy-looking matter in the bottom of acetifying casks is formed by the multiplication of these bacteria and is hence known as the "Mother of Vinegar."

PHOTO BY DESSAUX FILS

144,000 litres of wine for conversion into vinegar, in a single reservoir-train at Orléans, France

Wine Vinegar is made from either red or white wines. It is red when obtained from the former, and light yellow or golden if from the latter—which give the choicer products.

Malt or *Beer Vinegar,* from barley malt or beer, is of brownish hue and smells rather like sour beer. It is also known as "British Vinegar," because it is generally used in England for pickles.

Cider Vinegar is brownish-yellow, with an odor suggesting apples.

The comparative merits of these three types is a matter of individual taste. Quality is subject both to age and to the particular flavor of each lot.

White Vinegar, or "Spirit Vinegar," which is especially favored for pickling, is made from dilute whisky.

Under various titles, commercial vinegars are also obtained from beet sugar and sorghum molasses, sweet wastes of various other descriptions, sour ales, beers, etc, and numerous chemical dilutions.

The sale of straight vinegar is supplemented by a considerable demand for specially flavored types, chief among them being Tarragon Vinegar, Chili Vinegar, Shallot (Eschallot) Vinegar and Garlic Vinegar.

Fruit Vinegars, as Raspberry Vinegar, Black Currant Vinegar, etc., are made by steeping fruit in vinegar. They constitute a separate class, being used chiefly to make summer beverages (see RASPBERRY VINEGAR).

There is a steadily increasing demand for bottled or "package vinegar" put up by well-known firms, attributable in part to the fact that it is so very easy to adulterate vinegar dispensed in bulk.

Wine Vinegar is generally made by allowing the wine to rest on lees for some time, followed by filtering and exposure in open casks.

Cider Vinegar was formerly obtained by allowing the barrels of cider to stand with open bungs in a warm cellar, but this is a long process and is now seldom employed commercially. Instead, the cider is allowed to percolate slowly through "generators," perforated casks filled with shavings or twigs saturated with old vinegar. By this process, used also in the making of malt and spirit vinegar, the product is ready for use in two or three days.

The tiny vinegar worms or "eels" sometimes found in vinegar are not in any way detrimental, but the gelatinous membranous matter found at the bottom of the bottle of home-made vinegar is generally of different character—it is a parasitic growth feeding on the components of the liquid, and eventually robbing it of much of its strength.

If all conditions are just right—if the proper temperature is obtainable and can be kept at the proper point without substantial fluctuation, etc.—it is possible to make good vinegar at home from wine, beer, etc., but the chances are very much against a product that can be compared with that put up by a first-class manufacturer.

Vinegar needs a good deal of care to keep it in the best condition. Exposure to the air, too strong light, or severe cold will cause it to deteriorate.

PHOTO BY DESSAUX FILS

119,000 litres of alcohol for vinegar manufacture, Orléans, France

VIOLET EXTRACT: essential oil of violets (see PERFUMERY) in an alcoholic solution.

VIOLET SUGAR: white Cut, or "lump," sugar containing violet extract and an occasional petal, the cubes or dominoes wrapped in waxed paper to preserve the aroma. An article suitable for very fancy service. *Violet Syrup* is of similar character.

VIRGINIAN COLIN: another name for the Virginian or American Quail. See article on QUAILS.

VITTEL. See article on table and medicinal MINERAL WATERS.

VODKA: a fiery Russian whisky distilled generally from rye, but sometimes from barley or other grains and potatoes.

VOLATILE OILS. See ESSENTIAL OILS.

WAGON: one of the grocer's indispensable aids, and if poor in material or make, one of his greatest troubles! Every merchant should realize the advertising possibilities of a handsome delivery wagon. It should be borne in mind that the delivery wagon is the public representative of a retail business, continually in the public eye, traversing all streets and stopping at all sorts of houses. It pays a high-class business house to see that it is creditably represented in this respect. It is not enough that vehicles should be serviceable—they should also be handsome and correctly represent the spirit that animates the store. No one likes to have a shabby delivery wagon stop in front of the door. Other things being equal, a lady will patronize the house which she knows will deliver her purchases to her in good style. Furthermore, fine delivery wagons are, after all, just as cheap in the long run, for they last longer and cost less for repairs.

WALNUTS: the nut-fruit of a large tree extensively cultivated in many parts of the world. The California orchards now supply nearly half of the total United States consumption. France furnishes about three-quarters of the walnuts imported, between twenty and thirty million pounds a year, the bulk of the balance coming from Italy, with lesser quantities from Chile, Turkey, Austria, etc.

French Walnuts are generally known as *Grenobles*, sub-divided into two principal grades, pure "Mayettes" and Commercials, the latter including Marlots, Cornes, Lots, Cahors, etc. The best Italian are those known as *Sorrentos*.

The type always understood commercially under the general name of "walnut" is that formerly known here as the "English Walnut." The California orchards have been developed from imported stock of that variety.

The two principal varieties of *native* American walnuts are the *Black*, which offers nut-meat excellent in quality but contained in woody receptacles so strong that nut-picks are required to extract it, and the American "White Walnut," which is more generally known as the *Butternut* and which is even more toughly coated.

If catering to good class trade, one should select medium-large nuts, of uniform size—this adds greatly to their attractiveness—and thin, smooth, light-colored shells of nice shiny appearance. The stock must always be kept in a cool dry place and protected from rats.

The green nuts, gathered before the inner shells harden, make excellent pickles. The kernels are also pressed for oil; the husks and the juice of the green fruits are

used in the manufacture of hair and other dyes, and the bruised leaves have an aromatic odor which drives away moths.

See also *Color Page* facing 410 and articles on BUTTERNUTS and NUTS.

WALNUT OIL: an edible oil which in Germany and Switzerland takes the place held by olive oil in France and Italy. It is also sold here, principally in German delicatessen stores. If of good quality, it possesses a delicate, nutty flavor.

WASABI: a Japanese plant, whose root is grated for use like American horse-radish. It has an agreeably sharp taste. Efforts are being made to propagate the plant here.

WASHING PREPARATIONS. Under this head may be classed every article sold to take the place of soap. Washing Crystals are simply anhydrous carbonate of soda, sometimes rendered caustic by the addition of lime. Washing Fluids are generally based on similar material, with the addition of ammonia or borax. Some preparations are merely mixtures of soap, water and ammonia, being then best described as ammoniated soft-soap. See also *Soap-powders,* etc., in article on SOAP.

WASHING SODA. See general article on SODA.

WATER: in some form is essential to all forms of animal, and nearly all kinds of vegetable, life. Its consumption in liberal quantities is especially necessary to civilized communities because of the generally dry character of the bulk of their diet—the human body requires an average of nearly 75% water, whereas bread, for example, has only about 35% and bacon 20% liquid in its composition. See general article on FOOD VALUES.

The greater part of the world's water supply is obtained from the ocean—the water being drawn up by the sun as vapor and later falling condensed and free from salt, as rain or snow, to feed the rivers and lakes.

Ocean water in its natural condition averages about 3½% saline—of which about three-fourths is common salt. The salt can be removed by distillation, and several South American towns have temporarily obtained their entire fresh-water supply in that manner.

Pure water is a combination, by volume, of two parts of hydrogen and one part of oxygen. By weight, the proportion is two parts of hydrogen to sixteen parts of oxygen.

Chemically pure water is obtainable only by careful filtration and distillation. The purest water naturally obtainable is (1) rain-water in places remote from regular human habitation, taken after the rain has been falling sufficiently long to clear the atmosphere; and (2) that obtained by melting snow that has fallen in the polar regions. Nearly as close to perfection is the water in some mountain lakes—when resulting from melting snow and resting on impermeable rocks.

Such water—and all other in which the proportion of mineral matter is less than eight grains to the gallon—is known generally as "soft water," in contrast to "hard water," which implies a mineral content of eight to ten, and more, grains to the gallon. Water from rivers running over calcareous and clayey rocks often averages fifteen to twenty grains to the gallon.

The foreign matter in "soft water" is partly organic—animal and vegetable—and partly mineral—silica and salts of potash, soda, lime, magnesia, etc.

The mineral matter in "hard waters" varies greatly, but carbonate of lime generally predominates.

Water becomes solid, Ice, at 32° Fahr., and is converted into steam at 212° Fahr., boiling point.

The mineral matter found in the average water supply is not in any way detrimental to health—on the contrary, it is frequently a real benefit to the consumer. The "pure water" that every community should provide for itself is not necessarily *chemically* pure water, but water uncontaminated by sewage of any description or in any form, for such contamination is one of the most serious menaces to health.

Spring Water is frequently regarded as the highest type of "pure water" because of its ordinarily bright and more or less sparkling appearance. This appearance is, however, generally the result of its *hardness—i. e.*, the mineral ingredients it has absorbed in its passage through the rocks. In cases where the mineral ingredients are in sufficiently large proportions to be of distinct medicinal value, the spring water is classed as a "mineral water" (see article on MINERAL WATERS).

Distilled Water is "ordinary water" filtered, boiled in vacuum boilers to remove volatile organic matter, converted into steam in stills (see DISTILLATION) and finally condensed. If these processes are conducted with proper care, the water obtained is free from all germs or bacteria. It must be remembered, however, that it remains pure only so long as it is kept from contact with the atmosphere, as in syphons, corked bottles, etc.

Water Chestnut

WATER CHESTNUT: the kernel of the fruit of an aquatic plant. When boiled, it is floury and very pleasing to the palate.

WATER-CRESS: an aquatic plant of pungent, salty and rather bitter flavor, which is especially popular as a spring salad. It grows wild in many parts, flourishing best in running waters with sandy bottoms. Under cultivation it is generally raised in wide shallow ditches of slowly moving water.

Water-cress

Water-cress offers itself as a pleasant means of providing the blood with a good supply of natural salts, potash and acids, for it is more generally endowed with such matters than any other vegetable of general consumption, excepting only spinach.

WATERMELONS. See general article on MELONS.

WAX. The title wax was formerly confined to BEESWAX (which see), but it is now applied to many other substances of similar composition or characteristics. For household purposes, beeswax has been almost entirely superseded by PARAFFIN (which see) or "Paraffin Wax" because of its much lower cost.

Vegetable Wax, or Vegetable Tallow, is found as a coating on many plants and fruits, on the leaves of rye, lilies, etc., but in only a comparatively few cases in quantities sufficient for commercial purposes. Among the most noteworthy commercial

examples are the Myrtle Wax—also called "Bayberry," "Candleberry" and "Tallow Shrub"—of this country and several bushes native to China and Japan, one of which, known as the Chinese Tallow Tree, has been naturalized in the Southern States.

The berries of the Myrtle Wax are about the size of peppercorns, and when ripe are covered with a greenish yellow wax which is collected by boiling the berries and skimming it off as it floats on the surface of the liquid. A bushel of berries will yield from four to five pounds. The product, after remelting and refining, is chiefly used for candles, which burn slowly with little smoke and emit an agreeable balsamic odor, but fail to give a brilliant light. An excellent scented fancy soap is also made from it.

The Chinese Tallow Tree bears capsules containing three roundish seeds covered with fine white wax. The capsules and seeds are generally crushed and boiled, the fat then being skimmed off as it rises. The refined product makes fancy candles which are brilliantly white. Wax and linseed oil are frequently added to obtain the correct consistence.

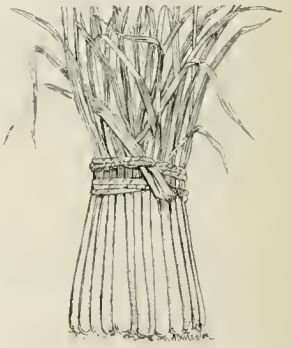
WAXED PAPER, or **Paraffin Paper:** is paper coated with refined PARAFFIN (which see). It is odorless and tasteless when properly made. It is employed in packing dates, raisins, candy, etc., and to wrap butter, lard, cheese and other foods, as it serves to keep moisture in—and out—and is cheap, convenient and cleanly. It is manufactured both in rolls and sheets and as a lining for paper bags. Small rolls at five cents and ten cents each are now retailed for household use, for wrapping meats, etc., keeping them fresh and moist and protecting them from the odors of other articles.

Vegetable Parchment Paper, treated with sulphuric acid so as to render it impervious to moisture, is also largely employed for the same purposes. The best qualities can be soaked in water and washed out without losing their virtue. Many careful housewives who receive butter, etc., wrapped in this special paper, save it for household uses after the consumption of the articles originally contained.

WEAKFISH: a fish resembling a trout found along the Northern Atlantic coast and in season from the middle of May to the end of October. It takes its name from the tenderness of its mouth. The *Common Weakfish* (see *Color Page* opposite 540) is silvery with dark, wavy marks. Other kinds include the *Spotted*, named from its black spots, and the *White*. Their weight varies with the depth of the water in which they are caught—those from near shore often weigh as little as half a pound, others from deep water reach as high as ten pounds.

WEIGHTS AND MEASURES. See *Tables* in APPENDIX.

WELSH ONION, or **Cibol:** a member of the onion family which is grown principally for its leaves, of mild onion flavor, employed for seasoning, etc.



Welsh Onions

WELSH RABBIT, or *"Rarebit"*: is made of dry cheese, melted with a little old ale and poured over slices of hot buttered toast. Seasoning and other ingredients, as sauces, etc., are added according to individual taste.

Many argumentative wars have been waged on the question of whether "rabbit" or "rarebit" is the correct word. Modern dictionaries give the preference to the former,

but "rarebit" still has a great many energetic defenders. The term is probably a jocular hit at the Welsh, as in New England a salt cod is styled a poor man's "turkey."

WEEVIL: a tiny brown wingless beetle, the greatest pest of stored grain. Among the numerous varieties are the corn-weevil, grain-weevil, nut-weevil and rice-weevil. They are liable to be found in any cereal product, package or bulk, kept on hand for a long time, especially if the surroundings are not clean.

Absolute cleanliness and a stock that is "turned over" at frequent intervals are the only practical preventives. Because of the possibility of this pest invading them, it does not pay to buy cereals in large quantities.

WESTPHALIA CHEESE. See sub-head in article on CHEESE.

WESTPHALIA HAM. See HAM.

WHALE OIL: is obtained principally from two species of whale—the Sperm Whale and the Right Whale. The former, or Cacholot, known also as the Spermaceti whale, inhabits nearly all seas and has a wide geographical range. It varies from sixty to seventy feet in length and will yield from six thousand to seven thousand gallons of oil. The finest is that taken from the great reservoir in the head and is distinguished by the specific title of "Sperm Oil."

The Right, or Greenland, Whale, yields the largest proportion of common whale oil, usually designated as "train oil," a term supposed to be a corruption of "drain," from the oil being drained out of the blubber. "Blubber" is the thick layer of fat immediately under the skin.

After the whale has been harpooned, lanced and killed, it is towed by boats to the ship and made fast to the ship's chains. The process of "flensing," or stripping off, the blubber is then undertaken by some of the crew who, provided with iron spikes in their boots to prevent slipping, descend upon the carcass, remove the blanket of skin in broad strips about thirty feet long and then, with "Blubber Spades," cut the fat into huge cubical pieces of half a ton or a ton weight. These are hoisted to the deck as cut, the process being continued until the entire mass, amounting to twenty or thirty tons, has been secured. In the meanwhile, others of the crew have explored the whale's mouth and secured the baleen or whalebone. The remainder of the carcass is then flung adrift.

The blubber is next cut into small pieces and the tissue is separated from it by heating in a large pot and then straining, the scraps from one pot and the whaleskin serving as fuel for another, the product being finally stored in casks to be brought home and boiled for oil. A ton of blubber will give about two hundred gallons of oil. A whale will often yield four thousand dollars' worth of blubber and whalebone.

Whale fishing no longer holds the important commercial position of former days. One reason is found in the scarcity of the big fish. Another, and the most important, is the large commercial use of substitutes for whalebone and whale-oil. The whale firms of New Bedford, Mass., are still the most prominent in the industry, but their fleets have shrunk in size and they now use San Francisco and Hawaii as refitting ports, shipping the bulk of their catch by rail across the continent.

Imported whale oil comes principally from Newfoundland, Labrador and Canada, supplemented by considerable quantities from Norway and Japan.

WHEAT (*see Color Page opposite* 676). The pre-eminence of wheat, in other than Asiatic countries, is attributable chiefly to the fact that, in the universally desired form of bread, it is more generally acceptable than any other grain. Its superiority in that respect is due to its comparatively large content of gliadin (see GLUTEN).

Wheat has been cultivated since the earliest ages—it was the main crop even in the days of ancient Egypt and Palestine. To-day, the United States produces and consumes greater quantities than any other country in the world. Russia stands next in the list of producers. The plant is an annual or biennial, flourishing in sub-tropical regions yet capable of enduring the unusually severe winters so often experienced in Northern Europe and the northwestern part of this continent. It requires, however, a mean temperature of at least 55° Fahr. for three or four months of the year.

Owing to the different climates in which it is produced, the cultivated varieties are very numerous and new kinds are continually presenting themselves, many of which are held in high estimation in certain districts. The chief types are known as Hard, Semi-Hard and Soft, Red, White and Durum, or "Macaroni," with sub-divisions into Bearded and Unbearded. The "hardness" and "softness" depend on (1) the variety, (2) the length of time taken to reach maturity, and (3) the amount of gluten developed. Any kind may be Spring or Winter, according to the sowing time.

The grain consists of a starchy kernel, composed of minute cells containing the glutenous proteids and the starch granules, wrapped in five coats or layers, which constitute the *Bran*. The three thin outside layers are called the "skin"; the fourth, known as the "testa," contains the greater part of the coloring matter of the bran. These four outer coats together constitute about 5% of the weight of the whole grain. The fifth inner and thickest coat (constituting about 8% of the weight of the whole grain) is known as the "cereal" or "aleurone" layer. The varying proportions in which the bran is included in the flour represent the differences in Graham, Whole Wheat and other similar breads (see BREADS).

A good milling wheat will yield from 75% to 80% of fine flour, of which perhaps three-fourths will be Patent and the remainder of lower grades.

Because of its importance for food purposes, wheat has attained great prominence in the political and commercial worlds. In the former, it has even held the reins of power, created parties, developed partisanship and decided the issues of parliamentary or congressional strife. In the latter, it has proved an attractive source of speculation and an objective point for financial ambition. It has been the compeer of gold in the race for gain, and has given and removed fortunes in a day. The principal produce exchanges throughout the civilized world resound with the noisy clamor of "bulls" and "bears," as the fluctuating prices of the grain are clicked by the telegraph and confusedly echoed among the excited throng. Corners have been created and ruin forced almost in the twinkling of an eye by the capricious determination of a favored few struggling for the sole possession of this precious grain. Too plain language cannot be used against this pernicious practice and it is devoutly to be hoped that proper legislation upon the subject may yet remedy the evil.

Rolled Wheat is milled in much the same way as *Rolled Oats* (see OATMEAL).

Cracked Wheat corresponds to old-fashioned Oatmeal.

Puffed Wheat is prepared in the same way as *Puffed Rice* (see article on RICE).

WHEY: is the product remaining after the removal of fat, casein, etc., from milk in cheese-making. It is a pale yellow liquid, consisting chiefly of water and milk-sugar.

WHISKY: as the word is generally understood to-day, is spirit of potable strength obtained by distillation from the fermented solutions of various grains—rye, corn, barley, wheat, etc.—as brandy is of fruits, principally of wine, *i. e.*, grapes. An important exception to this generalization is that grain spirit flavored with juniper berries is the product known as GIN (which see).

The word "Whisky" is derived from an old Irish and Scotch word *Usquebaugh* (pronounced "Whisky-bay"), derived from the Gaelic *Uisge,* meaning "water," and *Beatha* meaning "(of) life." The same idea is conveyed in the French name for Brandy—*Eau de Vie,* which also signifies "water of life." The title Usquebaugh was further applied in Ireland to a drink prepared by digesting raisins, etc., in spirit.

The different varieties of American Whisky are due primarily to (1) the different grains used or the different combinations of grains, and (2) the degree to which distillation is carried.

To properly explain the difference between "Straight," "Blended" and "Redistilled" whiskies, one must use the distillery phrases of "High Wines" and "Neutral Spirits."

The first distillation from the old pot-still is known as "Low Wines," and consists of a liquid containing about two-thirds water and one-third alcohol, together with various undesirable grain ingredients. Low Wines redistilled—once, twice or several times, according to the distillery equipment or policy and the degree of refinement desired—produce "High Wines," a much stronger product and with the "impurities" considerably reduced. In general modern manufacture, these distillations are made by a single continuous process—the Low Wines, while still in vapor form, passing into additional "chambers" and there being redistilled into High Wines. This High Wines, when water is added to reduce it to potable strength, is new *Straight Whisky.* It is at this stage a harsh, unpalatable product because of the congeneric substances ("fusel oil") contained, but aging in wood for three or four years overcomes this defect.

If, instead of condensing the vapors which form High Wines, they are passed through other chambers until practically all the congeneric substances have been eliminated or "neutralized," the result is "Neutral Spirits."

"Rectified Spirits," "Redistilled Spirits," etc., are essentially the same as Neutral Spirits.

Blended Whisky is sometimes a blend of two or more varieties of High Wines reduced to potable strength, but is generally a mixture of High Wines and Neutral Spirits. The High Wines is used for the character it imparts to the blend, and the Neutral Spirits to modify the harshness of the new High Wines.

Redistilled Whisky is Neutral Spirits reduced to potable strength, flavored and colored, either by aging in wood or by the addition of caramel coloring and fruit-juice flavoring, etc.

Compound Whisky is a mixture of any kind of whisky with distillates from other sources, as molasses, etc.

Other terms descriptive of American Whisky are:

Rye Whisky: in which Rye is the predominating grain.

Bourbon Whisky (so-called because first made in Bourbon County, Ky.), in which corn (maize) is the predominating grain.

Corn Whisky: in which corn is the only grain used except the Malt employed for diastatic purposes.

Malt Whisky: principally or entirely from malted grain.

Straight Whisky may be either Rye, Bourbon, Corn or Malt.

Blended Whisky may be either Rye, Bourbon, Malt or Corn "High Wines"—or all four—blended with each other or with "Neutral Spirits" and reduced to potable strength.

Whisky "*aged in wood*" is that in which the distinctive color and flavor are due either wholly or in part to the extractive matters from the barrels in which it is allowed to rest—instead of these two characteristics being otherwise produced. High class Blended and all Straight whiskies are so aged to a greater or less extent.

The use of Neutral Spirits is resorted to in the manufacture of a majority of popular price whiskies, because it decreases the cost of producing a marketable liquor. The unpleasant smell and taste of new Straight Whisky entirely disappear if it is stored for some years in wood casks, being succeeded by the amber hue and rich flavor so agreeable to connoisseurs—the "fusel oil" is still present, but it has lost the characteristics which render it objectionable to nostrils and palate—but to wait several years before marketing a product of this volatile character is to greatly enhance its expense by the loss in volume incurred and by tying up capital for that length of time. By blending with a sufficient quantity of Neutral Spirits, the fusel oil taste and smell are at once considerably modified. The next step is the addition of caramel (burnt sugar), which gives the desired color. By these methods a whisky, acceptable for ordinary purposes and equally wholesome when the product of reputable manufacturers, can be marketed with much less delay.

In some cases, prune and other fruit juices are added in small quantities to give "mellowness" and flavor.

Blending is also employed in the manufacture of some expensive American whiskies, which are "aged" just as long and at the same trouble and expense as for the best Straight Whisky. The reason, then, is the belief of the manufacturers that greater palatability is thus secured.

The special color and flavor which distinguish American Whisky were originally, and still are largely, due to the use of caramel—and frequently of fruit juices. The same color found in the whisky "aged in wood" to which no caramel or other substance is added, is attributable to the present American custom of using new barrels to store whisky and charring the insides of the barrels to prevent it from acquiring a "woody taste." New uncolored whisky as it first goes into the barrels looks like water, but as the liquor acts on the tannin of the layer under the charred surface of the wood, it changes gradually to very light amber, then to straw color and lastly to a rich amber.

In English, Scotch and Irish whiskies, barley, oats and malt (in varying proportions—some almost entirely of malt) are the dominating factors. In Scotland, the liquor is generally stored in sherry casks. The "smoky" flavor characteristic of Scotch and Irish whisky was originally caused by the use of peat or turf as fuel for drying the malt, and the force of public habit has resulted in its being continued under more elaborate methods. The best Scotch Whiskies are obtained by blending high-flavored raw whisky with very mild-flavored redistilled whisky and then thoroughly aging.

The five principal stages in the manufacture of whisky are (1) preparing the grain, (2) "mashing," and adding the malt to convert the starch into fermentable sugar, (3) fermentation, to convert the sugar into alcohol, (4) distillation to separate the alcohol from the water and solid matter, and (5) aging.

In addition to the "character" grain—rye for Rye Whisky and corn for Bourbon, etc.—ground barley malt (or in some rye whiskies, rye malt) is used, in American

WHEAT OATS RYE

manufacture, in an average proportion of 10% to 20%, occasionally to as high as 25%, according to individual or local custom.

The preparation of the grain means, in a first-class modern distillery, its careful selection (for damaged grain will spoil the flavor of the whisky), thorough "brushing" and cleansing and, finally, grinding into meal. It is then ready for the "mash" tubs.

A mash tub is generally a wooden or metal receptacle of large size, with apertures for the admission of steam, copper coils for the circulation of cold water and a power-driven contrivance (generally called a "rake") to agitate the contents, but in a few distilleries small hand mash tubs and hand paddling are still employed, the distillers denying the advantages of improved equipment.

The tub is half full of water at a temperature of from 140° to 170° Fahr., when the meal is gradually added and well mixed in. The heat is then slowly increased to the boiling point, and the mass—which is nothing more nor less than a gigantic grain "pudding," and has thickened to that consistence—is said to be "scalded" or "cooked." Cold water is added, through the copper coils referred to, until the temperature is reduced to 150° Fahr. or lower, and then the ground malt and an additional 5% or 10% of fresh rye or other meal are mixed in.

Soon after the malt has been worked into the "pudding," the mass begins to soften until it is sufficiently liquid to pass off through a trough or pipe into a wooden tank known as the "fermenter."

When the fermenter is a little more than half full of the "pudding" liquid, strained spent beer from a previous distillation is added until the tank is nearly full. This spent beer, familiarly known as "slop" among distillery laborers, is a thin acid liquor, rife with yeast cells and containing some unconverted starch.

The next move in the Sweet Mash process is the addition of some carefully prepared yeast, and then the whole is left to ferment. The yeast is generally the special secret of each distiller—on its merits and the skill shown at this point, depends much of the quality and value of the product. In some distilleries, prepared yeast is used to the entire exclusion of the "spent beer" addition. By the Sour Mash process, on the other hand, no yeast is used, reliance being placed entirely on the action of the spent beer.

In a few hours the mixture begins to bubble, the agitation increasing in violence with the continuous formation and escape of carbon-dioxide (carbonic acid gas). The fermentation produces two main factors, alcohol and carbon-dioxide—the former remains in the liquid, but the latter forces its way out.

The transformed liquid consists chiefly of crude alcohol and water, with numerous minor miscellaneous ingredients, and is known in distiller's parlance as "beer;" but it is not a drinkable beverage.

The Sour Mash process requires more time for fermentation than the Sweet Mash and does not yield as high an alcoholic percentage, but it gives the product more of the grain flavor.

The fourth stage employs the universal principle of Distillation (which see) to separate the alcohol from a large part of the water, leaving also the solids and certain deleterious ingredients behind. The exact processes vary in different localities and establishments and with the grade of whisky manufactured—infinite pains being taken in the making of finer types, as by double and triple distillation and the use of innumerable chambered stills placed one on top of the other so as to resemble a

"column"—but whatever the variations, the product carried over is "whisky," or can be made so by the addition of water to reduce it to potable strength.

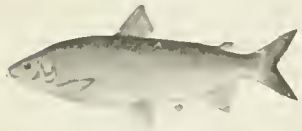
Straight Whisky is stored in the distillery bonded warehouses; Blended Whisky in "free" warehouses.

The filled barrels of Straight Whisky remain in the warehouses under the control of government officers as long as the manufacturer or other owner desires, being subject to withdrawal at any time on payment of the government charges. The full "bonded" period is eight years, at the end of which time the payment of the tax is compulsory.

Whisky as marketed generally contains about 50% alcohol by volume. The standard of alcoholic strength in spirituous liquors is termed *Proof* (which see). If less than 80° Proof, the degrees of Proof must be stated on the label.

WHITEBAIT: a small silvery-white fish, very popular in England and on the Continent, which is found in abundance in the Thames Estuary and other British waters during the spring and summer, being considered at its best in July and the first half of August. It is classed by some authorities as a separate variety, *Clupea Alba*, of the Clupeoid family—which includes also the shad, herring, pilchard and sprat—but it is more generally regarded as the young of the sprat and herring, often mixed probably with those of the pilchard and shad. It is most esteemed when from two to three inches long, although it is sometimes served at a length of from four to five inches. It is usually fried crisp, and is so tender that both bones and skin are eaten with the flesh.

WHITEFISH: a delicate-flavored fish of very light silvery color caught chiefly in the Great Lakes. It is in season from November to the early summer and reaches an average weight of two to six pounds. There are numerous varieties, differing somewhat in characteristics and known locally by divers titles.



Whitefish

WHITE ROCK. See article on table and medicinal MINERAL WATERS.

WHITE SAPOTA, or **Sapota Chico:** a greenish-yellow Mexican fruit about the size of a small apple. In flavor it resembles the peach, but it is not considered wholesome and the seeds are poisonous. The seeds and bark are locally incinerated and pulverized for medicinal purposes. In spite of the similarity of its colloquial titles, it does not belong to the Sapodilla family.

WHITE SULPHUR SPRINGS. See sub-head in article on table and medicinal MINERAL WATERS.

WHITEWASH: is slacked quicklime reduced to the consistence of milk by dilution with water. A very fine quality can be made by boiling a little starch, salting it well, pouring the mixture into the slacked lime while it is still warm and finally adding a few drops of Liquid Blue to remove the yellow tint and give it a pure white lustre.

WHITING: is made from chalk—which is an impure carbonate of lime. It is prepared by grinding and then washing the chalk so as to separate the coarser particles from the finer, the latter being collected in masses and dried.

Whiting is extensively used for size, in the manufacture of paint, putty, linoleum, calcimine, etc.; as a household article for cleaning metals and plate, and medicinally as an antidote in cases of poisoning with mineral acids.

Paris White, a finer grade, is made from English cliffstone, which is chemically the same as chalk.

WHITING, or **Silver Hake** (*see Color Page opposite* 240): a fish found on the Northern Atlantic coast. It reaches a weight of three or four pounds and is in season from September 1 to January 31. The name "whiting" is locally, but incorrectly, applied to many other fish.

WHOLESALERS AND JOBBERS. So many dealers style themselves "wholesalers," and at the same time cater to private family trade, that it is worth while to consider the real meaning of the term. A wholesale dealer is, properly, one who never thinks of dividing a parcel of goods into smaller quantities than the original package or case marketed by the manufacturer or importer. The desirability of checking retail sales on the part of "Wholesalers" and Jobbers, who, after stocking the retailer to his fullest capacity, undersell him to his best customers, has long been felt by the trade. Wherever Retail Grocers' Associations exist, they have acted promptly and effectively in the matter.

WHORTLEBERRY. See HUCKLEBERRY.

WIENERWURST. See sub-head in article on SAUSAGES.

WIESBADEN. See article on table and medicinal MINERAL WATERS.

WILTSHIRE. See sub-head in article on CHEESE.

WINDOW DISPLAYS. As a business-bringing medium the important value of a well-dressed show window is now so generally accepted that further supporting argument is quite unnecessary, therefore a discussion of this subject can be confined entirely to those principles and methods generally recognized as most essential for successful grocery store displays.

Of first consideration is the window itself. Its construction should be such as to supply it with plenty of light during the day, and for evening use there should be installed a sufficient number of properly placed lights to provide a brilliant window, but not a glaring one. Merchants the country over, whether in small towns or in the largest cities, are rapidly learning the value of light for evening displays. It has many times been demonstrated that through more brilliant lighting the stores on a street of moderate popularity can attract to themselves a large volume of the trade held by the merchants on the town's principal shopping thoroughfare. Whether a store keeps open late or not, evening window displays are in most cases highly valuable, as they afford many busy people an opportunity of viewing things which may appeal to them as immediate necessities or for future purchase, but which they would never have seen had it not been for the evening display.

There are three big advantages in having the rear, top and sides of a window completely enclosed. Such construction keeps displayed goods from injury through

dust; offers an opportunity for arranging attractive backgrounds; and enables the enclosure to be so ventilated that during the winter no frost can form to obscure the display. Such ventilation keeps the temperature on both sides of the window practically the same and thus prevents all condensation of moisture. It is also desirable to have the floor of a window raised about four inches, as such elevation gives added prominence to displays.

It should be borne in mind that in a window, as on the stage, the most conspicuous position is directly in the center; therefore, in arranging goods the most important mass or object should have this prominent location. The extreme sides are best adapted for the two masses next in weight to the centerpiece, and then all minor objects may be grouped between these three bodies. Displays should be kept well away from the window glass, as often an effect, otherwise splendid, is spoiled by thrusting it too close to the observer.

Most enclosed windows are provided with a permanent wooden background usually panelled and either finished in a natural wood effect or painted. In the matter of color it is advisable to avoid pure black or white; the former gives to most goods a dingy appearance and the latter affords too little contrast for such merchandise as is generally displayed. Most natural wood effects are good, as are also greys and greens. When backgrounds for special displays are required, an almost unlimited variety of colors and arrangements may be effected by the use of cheese cloth. This is also the best and cheapest of all materials for covering stands, pillars and other window fixtures. Even the most costly fabric cannot take the place of this inexpensive cloth; most goods would appear cheap if displayed on such obviously expensive materials as velvet or satin, but cheese cloth, while presenting a general attractiveness, is unobtrusive when closely approached and does not dispute for attention with the goods it helps display.

A variety of window fixtures, such as graduated shelves or stands, pillars, pedestals, arches, etc., can be either easily made or cheaply bought. If made they should, for greater strength, be put together with screws rather than nails. Should they be purchased it is well to consider whether or not you intend using them covered or uncovered. If your window is finished in oak or mahogany it is advisable to get the more costly hardwood fixtures to harmonize with your window finish; you may then use them covered or not, as the occasion requires. Many pleasing effects can be obtained by the use of screens and arches of cloth-covered or gilded lattice work. The stencil is also a useful and rapid method of securing attractive decorative results. Small artificial palms can often be of service as graceful wings to the window stage, in fact, they are very useful adjuncts to a supply of window fixtures.

Simplicity is the best principle to follow in window dressing. The general inclination is to crowd a window until it offers nothing but confusion to the passer-by. It should always be remembered that the first mission of a window is "to sell goods," and a crowded window has about the same chance of making sales as would a clerk who offered a customer a dozen different objects in every sentence. The circular arrangement of goods is usually more graceful and effective than cornered grouping and to this end only curved fixtures should be secured. There are, of course, many striking displays to be had from square and triangular forms, but in the circular method there is greater safety from possible discord.

A "mixed" window containing goods of various grades and sorts not in harmony should generally be avoided. Goods for displays can be divided into two classes: New

and seasonable goods, which find a ready sale because of their novelty or timeliness, and slow-selling goods, which must be moved by the expedient of bargain prices. The selling value of a window is almost invariably increased by a display of prices—merely prices, not necessarily "cut" prices. Prices have an educational effect directly bearing upon a larger sale of grocery luxuries. There are hundreds of commodities in the grocer's stock which many people never consider purchasing, simply because they are under an impression that these goods are much beyond their means.

The grocer's stock offers an immense variety of commodities from which to draw material for attractive displays. The idea of arranging in the window a group of various spices with a world map as a background and then running a slender ribbon from each pile of spice to the point on the map from which that spice came, is always sure to attract profitable attention. This scheme can also be used for other imported articles, and whenever photographs of scenes in foreign fields, markets and manufactories can be obtained they should always be considered as valuable window material, especially in these "map" displays.

All goods, particularly foreign products, which are put up in fancy or unusual cans, boxes, jars and bottles, possess much interest to the public. Small packing cases or casks having foreign labels, seals and other quaint marks can be used to advantage. A good idea for attracting attention to imported goods would be to arrange a number of pyramids, each composed of products from a certain country, and then to surmount each group with a small flag of the nation furnishing those commodities.

Rare and curious fruits are excellent attractions, and if a grocer does not make a specialty of fine fruits he can secure from the nearest importer of such goods quite a variety of uncommon tropical fruits. Such articles should not be considered as stock to be sold, as they well pay for themselves in the attention which they secure for the store. Displays of this nature should always occupy a prominent position, and care should be taken to set them off to the best possible advantage. The leaves of such fruits should be obtained when possible, and if the wrappings are unusual in appearance they should also be exhibited.

Displays composed entirely of one particular brand of packaged goods are always striking. A window filled with a certain soap, cereal or starch impresses observers with the abundance of that article and the extensive demand that must, in consequence, exist for it, and to convince people of a commodity's popularity is to accomplish the largest part of your sales work on it.

Many concerns send out made-up displays showing their goods as they appear in various stages of manufacture, and these can generally be used to advantage. Most manufacturers are generous in supplying their trade with such material for displays as may assist in the sale of the goods they make, and while a merchant should practice discrimination in choosing from this material for his window he should by no means neglect it.

Window displays should be seasonable. There isn't much "pulling" quality in a mid-summer display of fur overcoats, and it should no more be expected that a window full of plum puddings will appeal to many people in July. For a summer display of packaged cereals, flaked corn or puffed grains of some sort should be chosen rather than rolled oats or other heavy breakfast foods.

"Mechanical" displays—those having action due to special mechanism—are very effective if their obvious purpose is to show the quality or method in manufacture of some particular article of stock. But it should never be lost sight of that a display

must attract attention to the goods for sale and not merely to some interesting, but irrelevant, device. Electric fans can be used to advantage in giving action to flags or draperies and can usually be so placed as to be either entirely out of sight or quite inconspicuous.

"Illusion" windows and bizarre exhibitions of all kinds surely attract a crowd, but the crowd is there to see the show and not your goods. The value of most such displays is always questionable, and unless these exhibitions have some direct bearing upon what you have for sale nothing is lost by avoiding them. Electric illumination effects can usually be depended upon to get attention at night, and if well designed and arranged they form very excellent methods of halting the passer-by.

There are many opportunities during the year for special decoration. Christmas, New Year's, Washington's and Lincoln's birthday anniversaries, St. Valentine's Day, Easter, Memorial Day, Fourth of July, Hallowe'en and Thanksgiving, are all generally recognized with appropriate displays. There are also numerous other occasions for attractive window work: association and lodge conventions, local celebrations, visiting celebrities, etc. Careful judgment should be exercised in all displays that have to do with elections, athletic victories, and, in fact, all matters upon which public sentiment is divided. A partisan display usually has more power to repel than to attract.

Most merchants dress their windows outside of business hours, but a deviation from this practice is frequently advantageous. Many decorators gain much attention for the store by dressing their windows in full view of a mid-day crowd. People never seem to tire of "getting behind the scenes" and "watching the wheels go 'round," and a window dresser can always be sure of a sizable audience. If a canvas screen is used to enclose the window during a "change," the splendid opportunity its expanse offers for some brief, effective advertising should not be neglected. "Pass This Way Tomorrow, but Don't *Pass* This Window," "Our Window Is Closed, but Our Door Is Open," "Come Back! You'll Be Glad You Did," "Don't Look! The Window Is Dressing"—these lines suggest the length and style of such notices.

In the grocery trade, more than in any other, cleanliness of window displays is of essential importance. As a business-repelling device nothing can quite equal an exhibition of food products surrounded by dingy decorations, covered with dirt and dust and having the general appearance of an extensive fly morgue. Furthermore, while it is usually a desirable thing to have a cat in your store as a discourager of mice, it is wise to obtain a shy and modest tabby; one without the vain habit of show-window lounging. Goods and decorations should never be permitted to remain on display after they have lost their appearance of freshness. Dust and dead insects can hardly be prevented, especially in an unenclosed window, but it is only the work of a few minutes to dust your displays once a day, keeping them clean and tidy. A display of opened goods in an unenclosed window can be protected from flies by placing an electric fan at one side and attaching to the front-protecting wires, long strips of colored paper or silk ribbons. The wind-current from the fan, by keeping these streamers in motion, will not only drive away flies, but will add an attractive life to your display. Never, under any consideration, place fly paper in your window.

WINDSOR, or Broad, BEANS. See illustration and description on page 50.

WINDSOR, or Brown Windsor, SOAP. See article on TOILET SOAPS, page 571.

WINE: is not always found in the grocer's stock, but it is in many localities a profitable branch of the trade when it is kept in its proper place. If sold only in bottles or by the quantity, with no sampling, it attracts a good class of customers who use, but do not abuse, the product of the vine and who, for that very reason, prefer to purchase from the grocer.

Selling liquor over the bar should not be mixed with retailing groceries, although in some sections it is very generally done. In the end, it limits the success of the store instead of aiding it. The best custom is driven away, and that which remains too often ends by owing both the bar and the store, the store having trusted a little more liberally on account of the bar, and the bar unable to refuse the credit asked lest the whole bill should be lost—as it frequently is.

The term "Wine" is usually applied only to the fermented juice of the grape, but other fruits, as currants, raspberries, blackberries, gooseberries, elderberries, etc., are employed to make products distinguished generally by the name of the fruit or known as *Domestic*, or *Home-made*, wines.

The grapes are, for most types of wine, picked when just fully ripe, the juice being extracted by crushing and pressing, and stored in open vats for the first or active fermentation. The product is then drawn off the lees and placed in casks for the second or slow fermentation, during which the "character" of the wine develops. The subsequent processes differ according to the style and character of the wine desired (see special articles on CHAMPAGNE, SHERRY, etc.). During development, many wines undergo several "finings" (see CLARIFICATION). The lees, or Argol, deposited is largely utilized in the form of CREAM OF TARTAR (which see).

The quantity of alcohol in the wines of popular usage generally varies within the following percentages:

	Alcohol per cent		*Alcohol per cent*
Burgundy (red)	8-15	Port	18-24
Champagne	12-14	Rhine Wine	8-14
Claret	8-15	Sauternes	8-15
Madeira	18-20	Sherry	15-24
Moselle	8-10	Tokay	9-15

Wines, however, are not consumed for their alcohol alone. They contain other ingredients, derived from the grape juice, which are more important, both commercially and from the standpoint of the epicure. Their value depends largely on their *age*, *flavor* and *bouquet*.

The matter of *age* varies with different classes—some reach their prime at four or five years; others will continue to improve after the lapse of several decades. The *flavor* is attributable to the œnanthic ether formed during the fermentation of the grape juice—and on its delicacy and other characteristics rests the first popular classification of the merit of a wine. The *bouquet*, or *blume*, which frequently suggests the odors of violets, almonds, etc., is a higher quality peculiar to certain varieties and generally the factor chiefly responsible for giving

A primitive Wine Press, Madeira

"Racking" Wine, Xeres, Spain

one wine a value of five dollars a bottle, while another of the same alcoholic content and general properties, may be listed at only fifty cents. The bouquet is due to obscure volatile oils or to ethers (other than œnanthic) developed by the combination of certain acids in the wine with the ethyl of the alcohol content—so intangible that they are not detectable by chemical agency, yet very distinct and real to the educated palate.

Among the other substances which lend character are the *saline compounds.* These, the ashes of vegetable tissues, exist in varying quantity in all fruits, and are found dissolved in their juices, both before and after fermentation. The most abundant is bitartrate of potash, or tartar, but there are numerous others, especially tartrate of lime, tartrate of iron, chloride of sodium, chloride and sulphate of potassium, sulphate of potash and phosphate of alumina, occurring in a total proportion of from one to four parts in one thousand of wine. Their presence is one of the surest indications of the genuineness of a wine. Those who manufacture "wines" chiefly from alcohol and water, only incorporating a certain quantity of true wine for flavor, do not usually add these mineral constituents.

The first great division of wines is by their color. Broadly, the classification is into "Red" and "White," the latter including all wines which have no red in their composition.

The best known of the Red Wines are the Clarets, Burgundies and Ports. Their color is due to the custom of permitting a partial preliminary fermentation of the grapes in their skins—for White Wine, the grapes are pressed as quickly as possible to avoid the skins coloring the juice.

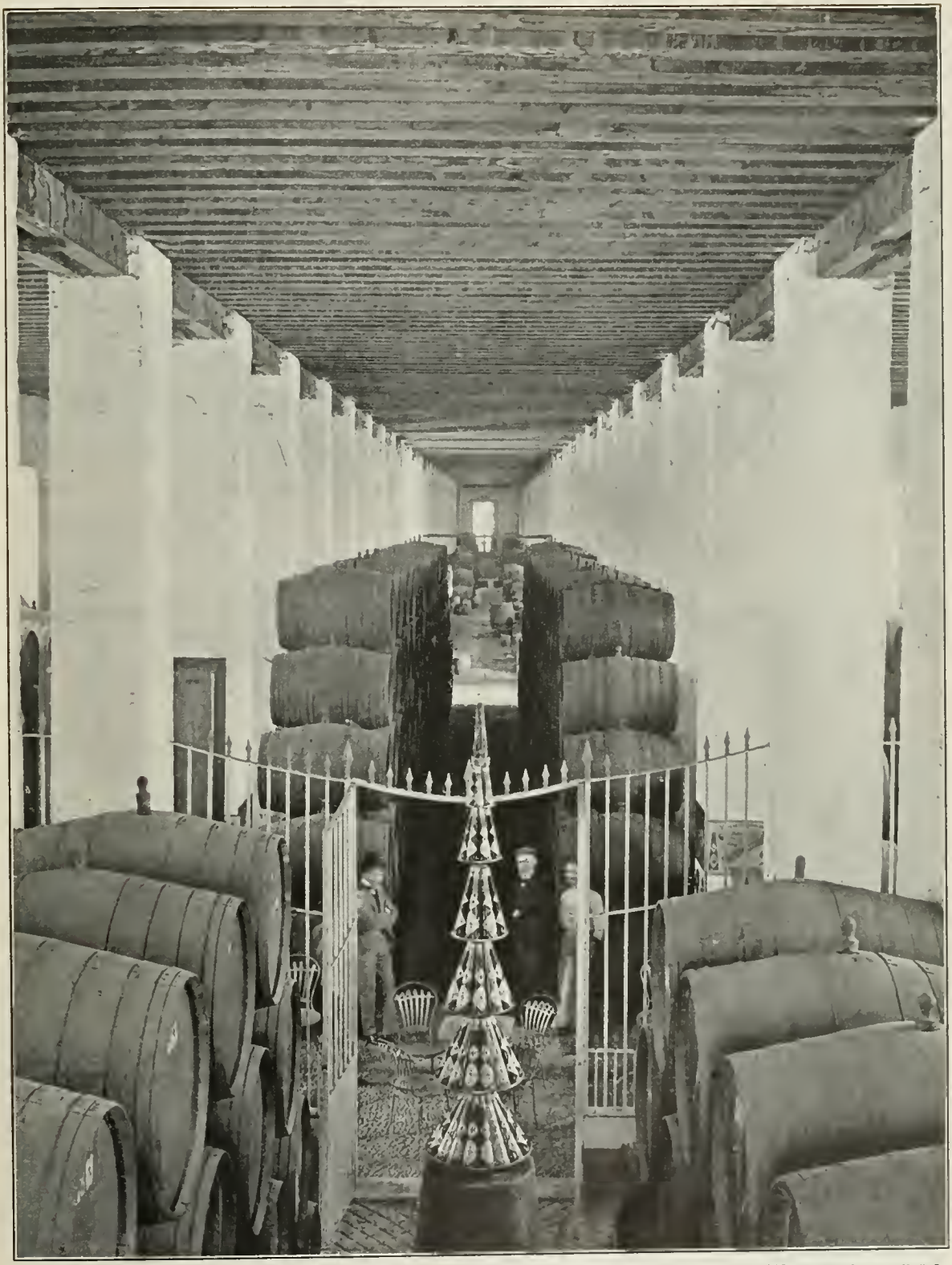
An accompanying attribute of Red Wine is tannic acid, which exists in some types to a considerable extent, and in many varieties, especially those from the south of France and Italy, gives a more or less marked astringency, which is not, though, in any way harmful to the human system. This astringency is usually absent from White Wines, though it is found in some of the darker varieties. Red Wines also generally contain more tartrates and iron, but less acetic ether.

The next divisions are into "Sparkling" and "Still," "Dry" and "Sweet."

Sparkling Wine is that in which remains part of the carbon-dioxide (gas) formed in the fermentation of the natural sugar of the grape juice or of the sugar or syrup added thereto. Still Wine is that from which the carbon-dioxide has been permitted to escape.

The difference between "Dry" and "Sweet" wines is due sometimes to the greater quantity of natural sugar left in

Bottling Room in a Malaga wine house



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ONE OF THE GREAT WINE CELLARS AT MALAGA, SPAIN

HOME ECONOMICS DEPT.

Cooper's Yard of a Tarragona wine firm

the latter during the process of fermentation and sometimes to the addition of small quantities of sweetening afterwards —or to both causes. Clarets contain very little or no sugar; some Sauternes and "sweet" Champagnes show a considerable percentage.

The "body" of a wine may be due to the unfermented sugar content or, as in rich Rhine wines, to the glycerine contained.

Natural wines to which neither alcohol nor syrup has been added, are very closely akin to the grape, for the process of making is practically nothing but the fermentation of the fruit juice. The difference between grape juice and claret, for example, is only the conversion of the "solid matters" and sugar of the grape into alcohol, water and small proportions of glycerine, albuminoids, etc., as will be noted by the average analyses below:

	Grape Juice	*Claret*
Sugar	21.80	0.13
Alcohol	..	9.83
Water	76.87	87.61
Glycerine	..	0.642
Tannin	traces	0.238
Albuminoid	0.30	0.278
Total volatile acidity calculated as acetic acid	..	0.127
Total fixed acidity reckoned as tartaric acid	0.69	0.460
Potassium Tartrate	0.34	0.166
Total mineral matter	0.34	0.220

Fortified Wines, both Dry and Sweet, are those to which alcohol—generally brandy, *i. e.,* grape alcohol—has been added. The best-known examples are Port, Madeira and the cheaper Sherries. The addition serves two purposes: (1) It gives the wine greater alcoholic strength than that of any "natural" wine, for no matter how heavy the grapes may be in sugar, fermentation is stopped when the alcohol formed by the fermentation of the juice reaches a percentage of about 17% by volume. (2) It makes possible a product containing much of the natural sweetness of the juice. Grape juice, from fresh fruit, has generally exhausted its sugar in fermentation and

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Gathering grapes, Aosta, Italy

Grape pickers carrying the filled tubs to the collecting wagons, Aosta, Italy

is "dry" by the time it has formed a percentage of 9% to 12% alcohol—it seldom reaches the 17% point referred to—but if sufficient alcohol is added when the natural fermentation has only proceeded, say, half-way, much of the sweetness of the juice is retained in the wine. This natural sweetness is in many fortified wines supplemented by the addition of sugar or syrup. By U. S. Standards, all wine containing more than 16% alcohol is classed as *Fortified.*

Storing and Care of Wines.

Circumstances vary so greatly that it is difficult to formulate a practical set of rules for the storing and care of wines. It is easy to specify just what conditions should prevail and the proper position and temperature for each kind, but few retailers have the space or facilities for conducting an ideal wine cellar.

A few cardinal principles must, however, be observed by everyone engaged in selling wines, no matter how limited the department may be, if they are to be turned over without loss and delivered in satisfactory condition.

(1) The cellar is the best place for storing wines, if it is dry, well ventilated and of even temperature, not falling below 50° Fahr., and located where street traffic will not cause undue vibration; but if the cellar is damp or much exposed, an upper floor is safer. No sink or sewer should be in the vicinity of a cellar used for wines.

(2) The temperature should average about 50° Fahr. for a mixed stock. Some wines keep better at a higher temperature, but where it is not practicable to give special attention to each variety, 50° Fahr. is a fair average for all.

(3) Vegetables or strong smelling articles should never be stored near wines. If possible, the cellar, or floor, should be devoted exclusively to wine storage. Vegetables, growing plants, green wood, etc., are especially dangerous, as they are liable to start fermentation again.

(4) The cellar door should never be left open, as variations are detrimental.

(5) Every barrel should be inspected on receipt—leakage results in atmospheric contact and will spoil the wine. A cask which has thus lost some of its contents should

be immediately refilled to avoid damage. In storing barrels, air-space should be left between each.

(6) Every bottle and its cork should be inspected when received. If the bottles are to be placed in the wine-bin, their straw envelopes are best removed.

If all other precautions are observed, wine may be left in cases, but if the wine-bin is suitably located and arranged, the bottles should be taken from the cases and placed in it.

(7) When binning, the bottles should be placed preferably on racks, lying on their sides so that the wine covers the corks. Some wines may be stood up, but it is safest to make the rule that all bottled goods shall be kept on their sides. The position is absolutely imperative in the case of sparkling wines, as otherwise the drying of the cork will result in "flatness" from the escape of the carbon-dioxide (gas).

The bottles should also lie with their labels up, so that, when taken out and replaced, they are always returned to the same position with the least possible disturbance of the sediment.

Every bottle should rest on an even foundation and be safe against slipping.

(8) If one side, or end, of the cellar is cooler than the other, the space should be assigned to Champagnes and Rhine and Moselle Wines. The warmest part should be given to Sherry, Madeira, etc. Port, Claret, Burgundy and Sauternes come in between.

If there is no difference in temperature, the wines which require warmer atmosphere should be binned or stored on the upper racks.

(9) If the cellar or other store-room is dry, but unavoidably exposed to either heat or cold, it is often advisable to bin the bottles in sawdust. Special care is then necessary, for if the sawdust is damp, it will generate heat and damage the wines, and it is also liable, in some sections, to breed worms, which attack the corks. As a protection against the latter possibility, the top of each bottle may be dipped in wax or rosin.

The Wines Most Generally Consumed.

The general American public does not show the diversified wine taste of the European. The average demand does not go beyond the various grades of Champagne, Claret, Rhine and Moselle Wines, Burgundy, Sauternes, Port and Sherry. To this list may be added, in some parts, a growing taste for Chianti and a limited consumption of Tokay, Madeira and Muscat. All of these are sold in both imported and domestic varieties.

Consumers should be advised that, when possible, it is best to allow fine clarets and Burgundies—and, in fact, nearly all wines and liquors—to rest a few days after delivery before opening them.

The "Correct" Wines for a Special Dinner.

It is not unusual for the retailer who has established a reputation for his wine department to be asked by his customer for information as to "the proper thing" in the way of wines for a special dinner or banquet.

No fixed routine of wines can be specified as being the only proper service for a dinner, banquet or other affair, as the highest authorities differ on this point, but the theoretically correct service is that which offers, for each course, wine which both in flavor and strength "harmonizes" with the dishes of which that course is composed, while at the same time so arranging their sequence as both to lead the palate agree-

ably from course to course and to bring out, by contrast and the development of the palate, the full value of each succeeding wine.

The fashion of the day carries, however, so much weight in all such affairs, that orthodox theories are often brushed aside. A few years ago saw a temporary revolution in wine service in England and also largely on the Continent and in this country —champagne was served throughout the entire meal, other wines being entirely disregarded. The "champagne only" idea is still upheld in some sets, but more general at present is the middle path—that of three or four well-chosen wines.

It must, however, be borne in mind that though the service of champagne and, say, two other wines, is better on general principles than that of only champagne, the latter method is more up to date than the former "strictly correct" style of a long list of different wines.

If one offers a full service, the sequence should be about as follows:

COMMENCEMENT.

An *apéritif* in the form of Punch (though this is unusual in America), a Cocktail, old Madeira, very dry Sherry or Vermouth.

WITH THE OYSTERS.

Light White Wines: Rhine or Moselle—as Hochheimer, Niersteiner, or Zeltinger; or White Bordeaux—as Graves or Sauternes; or White Burgundy—as Chablis.

WITH THE SOUP.

Sherry, as Dry Amontillado or Manzanilla.

WITH THE FISH.

Heavier White Wines, as Johannisberger, Steinberger or Montrachet.

WITH THE ENTRÉE AND RELEVÉ (or "*Remove*").

Claret, as Pontet Canet, St. Julien or one of the minor Château brands; or *Chianti*, or *Champagne*.

WITH THE GAME.

Burgundy (red), as Pommard, Volnay or Chambertin.

WITH THE DESSERT.

Rich Old Red Wines, as Port or fine Château Clarets; or rare vintages of *White Wines*, as Château-Yquem or Schloss Johannisberger; or *Champagne;* or *Italian Wines*, as Lacryma Christi; or *Spanish Wines*, as Malaga—or similar wines of any country.

WITH THE COFFEE.

Liqueurs, as Crème de Menthe, Chartreuse, Bénédictine or Fine Cognac.
Also, throughout the meal, high-class *Table Waters*.

The choice of the particular brands, etc., must naturally depend on (1) the amount the host wishes to spend and his individual fancy or preference, and (2) the physical construction of the repast.

1.—Port, Madeira and similar wines

3.—Sherry

2.—Cocktail

4 and 5. *Plain glass*, Claret, Chianti, etc.; *with green bowl*, Sauternes and other White Bordeaux wines) and Rhine and Moselle wines; *with rose or ruby bowl*, Burgundy

THESE ILLUSTRATIONS ARE FOUR-FIFTHS OF ORIGINAL SIZE

1.—Crême de menthe 2.—Liqueurs 3.—Pony Brandy
4.—Saucer Champagne 5.—Hollow-stem Champagne

THESE ILLUSTRATIONS ARE FOUR-FIFTHS OF ORIGINAL SIZE

The simpler "intermediate" style referred to is shown in the two examples below:

EXAMPLE A.

An appetizer (*apéritif*) to commence with.
White Wine with oysters, soup and fish.
Champagne with the entrée, relevé and dessert.
Burgundy (or fine claret) with the game.
Liqueurs with the coffee.

EXAMPLE B.

White Wine with the oysters.
Sherry with the soup and fish.
Champagne with entrée, relevé, game and dessert.
Liqueurs with the coffee.

The two pages preceding show a number of "correct" glasses for different wines and liqueurs. Here again the choice or decision is largely a matter of individual taste, local custom or temporary vogue. If only the glasses shown are used, no adverse criticism is tenable, but various other styles might be followed and be considered in equally good form.

Decanting, Serving and Temperature.

The American preference is generally for bringing the original bottle of wine or spirits to the table, filling the glasses from it direct. This is also the correct method from an epicurean standpoint, as, in spite of some assertions to the contrary, the decanting of wine (emptying the original bottle into a decanter before serving) cannot improve the bouquet or flavor, and very often results in losing a noticeable proportion of both.

Serving wine from the bottle needs, however, very careful handling in the case of older wines and others having a heavy sediment, as otherwise, in pouring into the glasses, the shaking of the bottle may mix particles of the sediment with the wine, detracting from the clearness which is so desirable. The wisest policy is to make use of a WINE CRADLE (which see).

Unless served from a Wine Cradle, old still wine—particularly Claret, Burgundy and Port—that has been a long time in bottle, should be allowed to stand on end for twenty-four to thirty-six hours so as to permit the sediment to settle to the bottom. If it is then considered advisable or preferable to decant it, a light may be placed behind the neck of the bottle while so doing—you can then see when the sediment has been reached. Before setting it to stand, it is best to partly extract the cork, so that when you are ready to decant, it can be removed with the least possible agitation of the wine.

An automatic cork puller is almost indispensable for the easy and quiet removal of corks.

The common belief in this country that wines containing sediment are impure, is incorrect. All still wines cast sediment if left in the bottle long enough—a fact well understood in Europe. The same result may follow from weather influences during transportation. This sediment affects neither the flavor nor quality, if the bottles are handled with sufficient care to avoid mixing the contents. The process which results

in its absence from sparkling wines of high grade is described in the article on CHAMPAGNE.

Wine in open bottles should never be left uncorked longer than necessary to serve.

Champagne should be well chilled before serving, but ice should not be put in the glasses.

White Wines, such as Burgundies, Rhine and Moselle Wines and Sauternes, are best at about the temperature of the cellar, 50° to 55° Fahr.; above this, they lose in taste and bouquet. Some people prefer Rhine and Moselle Wines served at a still lower temperature—about 45° Fahr. If too warm, they may be cooled by setting the bottles in iced water—*not* in ice, as too violent a change of temperature will weaken the bouquet of the finer types.

Red Wines, such as Claret and Port, are best at a temperature of 60° to 65° Fahr.—about that of a moderately warm room. Burgundy (red) is generally best at 70° Fahr. Below these temperatures they lose in mellowness. As the cellar temperature is generally below 60° Fahr., such wines should be placed where the temperature is a little warmer for some hours before they are needed for consumption.

Sherry and Madeira should be served at the average temperature for Red Wines, 65° Fahr.

Sherry and Sweet Wines are especially liable to be chilled during transportation in cold weather and thus to lose their brilliancy. When this occurs, they should be placed for a time in a moderately warm and uniform temperature before putting into the cellar.

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35 A wagon-load of grapes for the press-house, Aosta, Italy

Catalog of Wines of All Nations.

The alphabetical list commencing at the foot of this page and concluded on page 704, embraces all wines commercially familiar to the trade in this country and enumerates their chief characteristics. Those distinguished by an asterisk (*) are further described under the headings so marked. Full titles generally include one or more of the terms following:

FRENCH.

Rouge. Red. *Blanc.* "White."
Ordinaire. "Common" or cheap grade.
Grand vin. Wine of a high class or cru.
Premier, première. "First," as of crus or classes.
Vierge. First pressing (of the grapes).
Vieux, or *Vieille.* Old.
Doux. Sweet
Sec. "Dry"
Brut. Unsweetened
} See uses in article on Champagne.
Crémant. Moderately sparkling.
Mousseux. Effervescent (as champagne).

The word *Haut* is explained in the article on Bordeaux wines (white); *Clos* in Burgundy; *Cru* and *Château* in Claret, and *Mas* in Hermitage.

GERMAN.

Rot. Red. *Weiss.* "White."
Ausbruch. First pressing (of the grapes).
Auslese. Selected (grapes).
Cabinet. Signifying "very choice."
Feinste. Finest. Very delicate.
Keller-Abzug. Château-bottling.
Essenz. "Essence" (see description in Tokay).
Berg. Mountain. *Hof.* Manor house.
Schloss. Castle.
Süss, Süsser. Sweet. *Trocken.* "Dry."
Sekt. Champagne. Sparkling.
Perlen. Sparkling.
Schaum. Moussieren. Foaming. Effervescent.

ITALIAN.

Rosso. Red. *Bianco.* White.
Dolce. Sweet.
Secco. "Dry." *Spumante.* Sparkling.
Amabile. Light and delicate.

Many Italian wines are classified by French terms, instead of their Italian equivalents.

Where used without any qualification, the word *Claret* signifies Red Bordeaux wine (see article on Claret). Note that *Château* clarets are listed under "Château" instead of alphabetically by the name of the estate.

When used without any qualification, the terms *Rhine Wine* and *Moselle* signify *white* Rhine and Moselle wines.

The most important articles and items, found in their alphabetical positions, to which the catalog is subsidiary, are the following: American Wines, Angelica, Bordeaux, Burgundy, Cabernet, Canary, Catawba, Cette Wines, Champagne, Claret, Delaware, Greek Wines, Hermitage, Hungarian and Austrian Wines, Italian Wines, Madeira, Malmsey, Muscat, Port, Portuguese Wines, Rhine and Moselle Wines, Riesling, Rivesaltes, Sack, Saumur, Scuppernong, Sherry, Spanish Wines, Swiss Wines, Tokay, Vermouth and Zinfandel.

A

Achaier. Greek.*
Adelantadillo. Spanish, claret-style.
Adelsbacher. Moselle.
Affenthaler. Red Rhine Wine.*
Ahrbleichart. Red Rhine Wine.*
Ahrweiler. Red Rhine Wine.
Aigle. Swiss.*
Ala. Red Austrian (Italian Tyrol).
Albanello. Sicilian, rather fiery, deep amber, sherry-style.
Alcantara. Sicilian, amber, spirituous, frequently pungent.
Aleatico. Sweet Italian, dessert type.
Aleonzo. White Italian, various styles.
Alicante. Spanish.*
Aloxe. Red Burgundy.
Altomino. White, dry, from Tuscany, Italy.
Ambarés. Claret.
Amareno. Sicilian, amber, sherry-style.
Ambrosia. Greek muscat (Santorin).
Amontillado. Sherry.*
Angelica.*
Arbois. Red Burgundy (Jura district).
Arcas. Portuguese, red, slightly sweet and acid.
Ardon. Strong red Swiss.
Arinto. Portuguese, white.
Artimino. Red, claret-style, from Tuscany, Italy.
Arvelets. Red Burgundy (Class III.).
Aschaffenburger. Rhine Wine.
Assmannshäuser. Red Rhine Wine.*
Asti. Italian.*
Asturia. Spanish, red, dry.
Auldana. Australian, white and red, Rhine and claret styles.
Aulère. Red Burgundy.
Aulhauser. Rhine Wine.
Auvergnat. Orleans claret.
Auxerre. Red Burgundy.

Avallon. Red Burgundy.
Avelsbacher. Moselle.
Ayler Kupp. Moselle.
Azambuja. Portuguese, red, full-bodied, tart, spirituous.

B

Bacchus. Aromatic, gold Sautorin (Greek).
Bacharach. Rhine Wine—a variety formerly of great repute.
Badacsonyer. HUNGARIAN.*
Baillio. Red, dry, full-bodied Swiss.
Baja. South Italy, white.
Bakacsinyer-Bratenwein. White Hungarian.
Bakator. White Hungarian (Arad).
Baraya. Red Hungarian.
Barbera. 1—ITALIAN.* 2—U. S., red, Burgundy-style.
Bari. Sweet gold Italian muscat.
Barolo. ITALIAN.*
Barra-a-Barra. Red Portuguese.
Barsac. White BORDEAUX.*
Bâtard-Montrachet. White Burgundy (Class II.).
Baumes. HERMITAGE.* See also *Bommes* in BORDEAUX (White).
Baumoehl. White Moravian.
Beaujolais. Red BURGUNDY.*
Beaumont. 1—Red Burgundy (Class III.). 2—Tawny, sweet Australian, natural-port style.
Beaune. Red BURGUNDY.*
Beaune-grèves. Red Burgundy (Class III.).
Behlenheimer. White Reichenweyer (Alsace-Lorraine).
Bel Air. Claret.
Bellinzona. Red Swiss.
Beni Carlo. Red Spanish, Burgundy-style.
Bergama. White Austrian (Carniola).
Bergerac. Red and white, from Dordogne, France.
Berkowitzer. Red and white Bohemian.
Berliquet. Claret.
Berncasteler. Moselle (see RHINE WINE).
Bessar. HERMITAGE.*
Beychevelle. Claret.
Beziers. Burgundy-style, from Hérault, France.
Bigama. Golden Illyrian (Austria).
Binger. RHINE WINE.*
Blanquefort. 1—Claret. 2—White Bordeaux.
Blanquette. White, still and sparkling, sweet and dry, from South France.
Blaye. Claret.
Blume der Nahe. White German, Moselle-type.
Blume von Johannisberg. Sparkling Moselle.
Bocellas (Bucellas). PORTUGUESE.*
Bocksteiner. Moselle.
Bodendorfer. Red Rhine Wine.
Bodenheimer. RHINE WINE.*
Bodenthaler. Rhine Wine.
Bommes. White BORDEAUX.*
Bonardo. Red dry Italian.
Bonnes-Mares. Red Burgundy (Class II).
Bordagno. Red dry Italian.
Bordeaux Wines. See CLARET and BORDEAUX (white)
Bosenheimer. White German, Moselle-style, Nahe Valley.
Botzen. Numerous varieties from German Tyrol.
Boudots. Red Burgundy (Class III.).
Boudry. Dry, ruby Swiss.
Bourg. Red, from Saumur district, France.
Bourgogne. French for BURGUNDY.*
Bouzy. Champagne-type from Bouzy, Marne, France.
Bracheto, Bracheto Spumante. Red Italian, still and sparkling.
Bratelbrunn. White Moravian.
Brauneberger. Moselle.
Briedeler. Moselle.
Brunner. White Austrian.
Bual. MADEIRA.*
Bucellas. PORTUGUESE.*
Budai. HUNGARIAN.*
Bukkalla. Australian, red and white.
Burger. U. S., Rhine-style.
BURGUNDY.*
Buxy. White Burgundy.

CABERNET.*

C

Cailleret. Red Burgundy (Class III.).
Cailles. Red Burgundy (Class III.).
Calliand. Red Austrian (Italian Tyrol).
Calvel. PORTUGUESE.*
Camarate. Portuguese, natural-port style.
Camerite. GREEK.*
Campidano. Red Italian.
CANARY.*
Cantenac. Claret.
Canzemer. Moselle.
Cape Hock. Cape of Good Hope—sherry and Rhine styles.
Capo Corso. Dry white Corsican.
Capo di Miseno. White, from South Italy.
Capri. ITALIAN.*
Carbonnieux. White Bordeaux.
Carcavellos. Rich, spirituous, Portuguese, white to amber.
Carignan. Full-bodied claret-style (1) from Turin. Italy; (2) U. S.
Carlowitzer (Karlowitzer). HUNGARIAN.*
Carmignano. Red, dry Italian, from Tuscany.
Carwarra. Dry Australian—Burgundy and Sauternes styles.
Casalmaggiore. White dry Italian.
Caseler. Ruwer (see RHINE WINE).
Cassagne. Red Burgundy.
Castel Ceriolo. Red dry Italian.
Casteldaccia. Italian, red and white.
Castelruggero. White dry Italian, from Tuscany.
Castel San Stefano. Italian, red and white.
Castillon. Claret.
CATAWBA.*
Cavallaro. Dry, spirituous, amber Sicilian.
Cerljenacer. Strong, sweet Dalmatian (Austria).
Cerneseker. White Bohemian.
Cérons. White Bordeaux.
CETTE WINES.*
Chablis. BURGUNDY.*
Chacoli. Light Bisay wines—red and white.
Chambertin. Red BURGUNDY.*
CHAMPAGNE.*
Champans. Red Burgundy.
Chantalouette. Red Hermitage.
Charlemagne-Corton. White Burgundy (Class II.).
Charmes. White Burgundy (Class II.).
Chassagne. Red Burgundy (Class III.).
Château Abel-Laurent. Claret.
" d'Arche. White BORDEAUX.*
" d'Arsac. Claret.
" Astigues Arnaud. Claret.
" d'Aux. Claret.
" d'Avenson. Claret.
" Barreyre. Claret.
" Batailley. CLARET.*

*SEE SPECIAL ARTICLE.

Château Bayle. See *Château Guiraud* in Bordeaux (white).
" Beaucaillou. Claret.
" Beauregard. Claret.
" Becker. Claret.*
" Bel Air. Claret.
" Belgrave. Claret.*
" Bellefond-Belcier. Claret.
" Bellevue. Claret.
" Beychevelle. Claret.*
" Boulbène. Claret.
" Bouliac. Claret.
" Branaire Duluc, " Brane Cantenac } Claret.*
" Broustet Nérac, " Caillou } White Bordeaux (second growth).
" Calon-Ségur, " Camensac } Claret.*
" Camponac. Claret.
" Cantemerle, " Canteuac Brown } Claret.*
" Carbonnieux. White Bordeaux.
" Carnet. Claret.
" Chapelle de la Madeleine. Claret.
" Cheval-Blanc. Claret.
" Citran. Claret.
" Clarke. Claret.
" Clerc-Milon. Claret.*
" Climenz. White Bordeaux.*
" Constance. Claret.
" Cos d'Estournel. Claret.*
" Cos Labory. Claret.*
" Coucy. Claret.
" Contenceau. Claret.
" Coutet. White Bordeaux.*
" Cremes. Claret.
" le Crock. Claret.
" Croizet-Bages. Claret.*
" Dauzac, " Desmirail } Claret.*
" Dillon. 1—Claret. 2—White Bordeaux.
" Doisy. White Bordeaux (second growth).
" Ducasse-Grand-Puy, " Ducru Beaucaillou, " Duhart Milon } Claret.*
" Duluc. Claret.
" Dupré-Fourcas. Claret.
" Durfort Vivent. Claret.*
" Ferrière. Claret.*
" Filhot. White Bordeaux (second growth).
" Flandres. Claret.
" Fleurennes. Claret.
" Fongravey Bethmann. Claret.
" Fourtet. Claret.
" Gallan. Claret.
" Germanville. Claret.
" Giscours. Claret.*
" Grand Barail. Claret.
" Grand Perrot. Claret.
" Grand Puy. Claret.*
" Grillet. White Burgundy.
" Gruaud Larose Sarget. Claret.*
" Guiraud. White Bordeaux.*
" Haut Bages. Claret.*
" Haut Barde. Claret.
" Haut Breton. Claret.
" Haut Brion. Claret.*
" Haut-Smith-Lafite. Claret.
" de l' Ile. (1) Claret. (2) White Bordeaux.
" d' Issan. Claret.*

Château Kirwan, " Lafite } Claret.*
" Lafon-Rochet. Claret.
" Lafourie. Red Burgundy.
" Lagrange, " La Lagune, " Lalande } Claret.*
" Lamothe. 1—White Bordeaux (second growth). 2—Claret.
" Langora. Claret.*
" Larose, Guaud-Larose, Gruaud-Larose-Sarget. Claret.*
" Larrivaux. Claret.
" Lascombes, " Latour } Claret.*
" Latour Blanche. White Bordeaux.*
" " Carnet. Claret.*
" Laudère. Claret.
" Laujac. Claret.
" Léoville, Léoville Barton, Léoville Poyferré. Claret.*
" Lessar. Claret.
" Loubens. White Bordeaux.
" Lynch Bages, " Lynch Moussas } Claret.*
" Maison Blanche. Claret.
" Malescasse. Claret.
" Malescot-St. Exupéry. Claret.*
" Malle. White Bordeaux (second growth).
" Malleret. Claret.
" Marbuzet. Claret.
" Margaux. Claret.*
" Marquis de Terme. Claret.*
" Marpau. Claret.
" Maucaillou. 1—Claret. 2—White Bordeaux.
" Mérin d'Or. Claret.
" Milon-Déjean. Claret.
" du Mirailh. Claret.
" Mirat (Myrat). White Bordeaux (second growth).
" La Mission. Claret.
" Montjoie. White Bordeaux.
" Montlys. Claret.
" Montot. Claret.
" Montrose. Claret.*
" Moulerens. Claret
" Mouton d'Armailhacq. Claret.*
" Mouton Lafite. Claret.
" Mouton Rothschild. Claret.*
" Neuf du Pape. Deep colored, heavy bodied, from Rhone district, France.
" de Nort. Claret.
" Olivier. 1—Claret. 2—White Bordeaux.
" des Ormes. Claret.
" Palmer. Claret.*
" Pape Clément. Claret.
" Passore. Claret.
" Paveil. Claret.
" Pavie. Claret.
" Pédesclaux. Claret.*
" Pessac. Claret.
" Peyragney. White Bordeaux.*
" Peyxotto. White Bordeaux (second growth).
" de Pez. Claret.
" Phelan-Ségur. Claret.
" Pichon Longueville. Claret.*
" Piedreux. Claret.
" Plessy St. Paul. Claret.

*SEE SPECIAL ARTICLE.

Château Poet Ausone. Claret.
" Pomys. Claret.
" Pontet Canet. CLARET.*
" Popp-Camensac. Claret.
" Poujeaux. Claret.
" Poujet. CLARET.*
" le Prieuré. CLARET.*
" Rabaud. White BORDEAUX.*
" Rauzan (Rausan) Gassies } CLARET.*
" Rauzan Ségla }
" Rieussec. White BORDEAUX.*
" Rochet. CLARET.*
" Romer. White Bordeaux (second growth).
" St. Bris. White Bordeaux.
" St. Exupéry. Claret.
" St. Georges. Claret.
" St. Pierre. CLARET.*
" Salins. White, Alsace-Lorraine.
" Sauau. White Bordeaux (second growth).
" Suduiraut. White BORDEAUX.*
" Talbot. CLARET.*
" de Tastes. White Bordeaux.
" du Tertre. CLARET.*
" Tivoli. Claret.
" Les Trois-Moulins. Claret.
" Vieux-Certan. Claret.
" Vigneau. White BORDEAUX.*
" Ville-George. Claret.
" Yquem. White BORDEAUX.*

Chebres. White dry Swiss.
Chevalier-Montrachet. White Burgundy (Class II.).
Chianti. ITALIAN.*
Chusclan. Sweet rose-colored, from Rhone district, France.
Cividino. White Italian.
Clairette. 1—Numerous white varieties from the Clairette grape, South France. 2—Sweet U. S., chiefly white.
CLARET.*
Clavoillon. Red Burgundy.
Clevener. White German (Baden district).
Coberner. Moselle.
Cocoules. HERMITAGE.*
Colares. Light Portuguese, red and white.
Colombier. 1—HERMITAGE.* 2—Dry ruby Swiss.
Combettes. White Burgundy.
Commanderia. Sweet red Cyprus.
Como. Greek, brilliant, port-style.
Completer. White dry Swiss.
Conaifesto. Red Portuguese.
Concise. Dry ruby Swiss.
Concord. U. S. red (claret) and white.
Condrieu. Still white, pale to deep amber, Rhone district, France.
Constancia. Liqueur-style wine from the vicinity of Cape Town, S. Africa. There are three chief varieties—*Red, Sweet Pontac* (dark and syrupy) and *Fontignac* (or "White").
Coquembay. White Swiss.
Corinth wines. GREEK.*
Cortaillod. SWISS.*
Corton. Red BURGUNDY* (Class II.).
Corveés (Clos des). Red Burgundy.
Corvini. Italian, red, dry, rather harsh.
Cosné. Red, dry, from Loire Valley, France.
Costamser. Red dry Swiss.
Costieres. Still, red, from South France.
Côte d'Or. BURGUNDY.*
Côte Rotie. Still, purplish, aromatic, from Rhone district, France.
Côteaux de Marc. Claret.
Cras Murge. Red Burgundy (Class III.).
Crémant Rose. Rose-colored sparkling Hungarian.
Croznovano. White Roumanian.
Csomborder. Transylvanian (Austria) Riesling.
Cueser. Moselle.
Cyprus Wine. Sweet, generally rich and spirituous, topaz to dark, and inclined to liqueur style.
Czernoseker. White Bohemian.

D

Dacarella. Sicilian, amber, sweet.
Dame Blanche. White Bordeaux.
Dattenberger. Red Rhine Wine.
Deldesheimer. Palatinate (see RHINE WINE).
DELAWARE.*
Deselay. Swiss.*
Dhroner. Moselle.
Dionnières. HERMITAGE.*
Dolcetto. Red Italian.
Donski. Russian "champagne" from the Don Vineyards.
Douro. Natural wine from the Douro district, Portugal. See PORT.
Dürkheimer. Rhine Wine.
Dulce. Syrupy, spirituous Spanish.

E

Ebernburger. White German, from Nahe Valley.
Echezeaux. Red Burgundy (Class III.).
Edelweiss. Rhine Wine, still and sparkling.
Egri. HUNGARIAN.*
Eiblingen. Rhine Wine.
Eichberger. Sweet white Austrian.
Eisenberger. White Hungarian.
Eisenthurer. White Austrian.
Eltviller Sonnenberg. Rhine Wine.
Enkircher. Moselle.
Enzerdorfer. White Austrian.
Epanner. White Austrian (German Tyrol).
Epineul. From lower Burgundy, chiefly red and sparkling.
Erbacher. Rhine Wine.
Erhametto. Red dry Italian.
Erdener. Moselle (see RHINE WINE).
Erlauer. Red Hungarian.
Ermellecker. White Hungarian.
Ermite, Ermitage. HERMITAGE.*
Ernster. Moselle.
Eschendorfer. Still white German, from Main Valley.
Estargel. Still, red, from Pyrenées-Orientales, France.
Est (Vino dell'). Red Italian.

F

Falerno. ITALIAN.*
Falkensteiner. Red Austrian.
Farnese. Sweet oily Greek muscat.
Faro. 1—Red Portuguese. 2—A light Belgian beer.
Faverge. Swiss.*
Feilsen. Saar (see RHINE WINE).
Felseneck. Rhine Wine.
Ferdistan. Sweet Persian, red and white.
Ferrière. Red Burgundy (Class III.).
Fêves. Red Burgundy.
Fino. SHERRY.*
Flandorfer. Red Hungarian.
Floirac. 1—Claret. 2—Red, sweet, South France.

*SEE SPECIAL ARTICLE.

Florence. Red, full bodied Italian.
Forli. Red Italian.
Forst, Forster. Palatinate (see RHINE WINE).
Frainsteiner. White, from German Tyrol.
Franconia Wines. See RHINE WINE.
Frauenfeld. Red Swiss.
Frelsa. Red dry Italian.
Friauler. Dark Illyrian (Austria).
Fronsac. Claret.
Frontignac. 1—Red and white muscat, from South France. 2—U. S. muscat. 3—*Constancia.*
Furis d'Ischia. South Italian, white.

G

Gattinara. Red Italian.
Geierslayer Neuberger. Moselle.
Geisenheimer. RHINE WINE.*
Genevrières. White Burgundy (Class II.).
Geropiga. Sweet Portuguese, liqueur-style, red and white.
Gimmeldinger. White German.
Glacier. Swiss.*
Glenpara. Spirituous Australian, red and white.
Gnadlersdorfer. Mild Moravian.
Goldeck. White Austrian.
Gomera. Red sweet Canary.
Gonobitzer. Sweet red Austrian.
Goutte d'or. White Burgundy (Class II.).
Gouvio. Red, full flavored Portuguese.
Graacher. Moselle (see RHINE WINE).
Grafenberger. White German.
Grafenstein. White German.
Gragnano. Red Italian.
Grand Puy Lacoste. Claret.
Graves. White BORDEAUX.*
Greffieux. HERMITAGE.*
Grenache. Still, red, sweet, from South France.
Grignolino. Dark full Italian.
Gringet. Swiss.*
Grinzinger. White Austrian.
Gros-Vimeau. White Bordeaux.
Gruaud-Larose. Claret.
Grunauer. Sweet white Austrian.
Gruneberger. White Prussian.
Grünhaüser. Ruwer (Moselle).
Guignières. Red Hermitage.
Gumpoldskirchner. See HUNGARIAN AND AUSTRIAN.
Gunstramdorfer. White Austrian.
Guntersblumer. Rhine Wine.
Gutedel. German and U. S. white wines from Gutedel grapes.

H

Hallauer. Red dry Swiss.
Hallgartner. Rhine Wine.
Haneadan. Sweet Persian, red and white.
Hattenheimer. RHINE WINE.*
Haugsdorfer. White Austrian.
Haut Bommes, Haut Barsac } WHITE BORDEAUX.*
Haut Cérons. White Bordeaux.
Haut Sauternes. White BORDEAUX.*
Heidesheimer. Red Rhine Wine.
Heiligengeistwein. Franconia (see RHINE WINE).
Hemsberger. White German, Odenwald District.
Hérault. See CETTE WINES.
Herbemont. U. S., rosy-white, sherry-style.
Hermitage. 1—See HERMITAGE. 2—Rich red Australian.
Herrenberger. Rhine Wine.
Hesslocher. Rhine Wine.
Highercombe. Dry Australian, amber and ruby.
Hochenburger. Light red Austrian.
"Hock," Hochheimer. RHINE WINE.*
Hoersteiner. White German, Main Valley.
Hoertenberger. Red Austrian (German Tyrol).
Homburger. White German, Main Valley.
Hubberger. White German, Odenwald District.
Hunneweyer. White Rappoltsweiler, Alsace-Lorraine.
Hymettus. GREEK.*

I

Ihringen. White German, Baden district.
Imperial Blanco. White light aromatic Spanish.
Ingelheimer. Red RHINE WINE.*
Irrewang. Red dry Australian.
Isera. Red Austrian (Italian Tyrol).
Itzsteiner. White German. Moselle-style, Nahe Valley.
Ives. U. S., CLARET.*

J

Jarrie. Still, red, from Isère, France.
Jassy-Nicorestic. Red Roumanian.
Jerez (Xeres). See SHERRY.
Jerusalemer. White Austrian.
Johannisberger. RHINE WINE.*
Jonquières. Still, red, from South France.
Josefshofer. Moselle.
Jurançon. Aromatic white U. S.

K

Kaisersberger. 1—Sweet white Austrian. 2—Reichenweyer (Alsace-Lorraine), red and white.
Kakhetian. Aromatic, red, from the Caucasus.
Kalavrita. Greek, liqueur-style.
Kalterer. White Austrian (German Tyrol).
Kapunda. Red Australian, resembling young port.
Karlburger. White German, Main Valley.
Karlowitzer. HUNGARIAN.*
Karthäuser. Moselle.
Kasbin. Sweet Persian, red and white.
Kausenberger. White German, Moselle-style, Nahe Valley.
Kephisia. Dry Greek, red and white.
Kiedricher Grafenberg. Rhine Wine.
Kientzheim. Reichenweyer (Alsace-Lorraine), red and white.
Kinheimer. Rhine Wine.
Kirchberger. White German, Baden district.
Kissibel. Alsace-Lorraine, white.
Klentnitz. White Moravian.
Klingelberger. White German, Baden district.
Klosterberger. Moselle.
Klosterneuherger. White Austrian, liqueur-style.
Koenigshacher. Palatinate (see RHINE WINE).
Kokelbürger. Gold Transylvanian (Austria).
Kolleser. White Austrian.
Kostheimer. Rhine Wine.
Kreutzberger. Red Rhine Wine.
Krimski. Russian "champagne" produced in the Crimea.
Kuechelberger. White Austrian (German Tyrol).
Kütterlé. Alsace-Lorraine, white.
Kynousia. Greek, several styles, still and sparkling.

L

Labin. Bohemian, red and white.
LaCôte. Swiss.*

*SEE SPECIAL ARTICLE.

La Croix. 1—*Blanc*, White Bordeaux. 2—*Rouge*, Claret.
Lacryma Christi. 1—ITALIAN.* 2—Sweet Greek.
Lacryma di Castellamare, Lacryma di Tiberii. Italian, similar to Lacryma Christi.
Lafite, Lafite Talence. Claret.
La Lagune. Claret.
Lalande Pomerol. Claret.
Lamalonga. Red, rather sweet Portuguese.
LaMarque. White Swiss.
Lamego. Red Portuguese.
Langlade. Red, sweet, from South France.
Langres (Clos des). Red Burgundy.
Larose. Claret.
LaTâche. BURGUNDY.*
Latour Martillac. Claret.
Laubenheimer. RHINE WINE.*
Laudau. Light, sparkling, from Rhone district, France.
Lavardio. Red dry Portuguese.
Ledenon. Red, sweet, from South France.
Leggi (Vino di). A Greek wine manufactured by Hebrews for the use of co-religionists.
Leistenwein. Franconia (see RHINE WINE).
Leitacher. Red Austrian (German Tyrol).
Léoville, Léoville Barton, etc. Claret.
Liebfraumilch. RHINE WINE.*
Lieserer. Moselle.
Lipari. Red and white muscat from Lipari Islands.
Lirac. Very dry, rose-colored, from Rhone district, France.
Lissubon. White dry Portuguese.
Listrac. Claret.
Locarno. Red Swiss.
Longueville. Alsace-Lorraine, still white.
Lons-le-Saulier. Several varieties, sparkling and still, from the Jura, France.
Lorch. Red Rhine Wine.
Lormont. Claret.
Lugarno. Red Swiss.
Luttenberger. See HUNGARIAN AND AUSTRIAN.
Lunel. Still white, sweet, from South France.

M

Macau. Claret.
Maccabeo. 1—RIVESALTES.* 2—Madeira from the Maccabeo grape.
Macon. Red BURGUNDY.*
MADEIRA.*
Madrina. Deep red, sweet Dalmatian (Austria).
Magyaráter. HUNGARIAN.*
Mailberger. White Austrian.
Maizemino. Red Austrian (Italian Tyrol).
Maizières (Clos de). Red Burgundy.
Malaga. SPANISH.*
Malbec. U. S., claret-style.
MALMSEY.*
Malvasia, Malvasier, Malvoisie. MALMSEY.*
Malvasia, Malvasia Spumante. ITALIAN.*
Manzanilla. SHERRY.*
Maraschino Wine. See HUNGARIAN AND AUSTRIAN.
Marburger. Red and white Austrian.
Marcobrunner. RHINE WINE.*
Margaux. CLARET.*
Marignane. Red and white, from Rhone Valley, France.
Markgraefler. White German, Baden district.
Marsala. ITALIAN.*
Masdeu. See *Roussillon* (this list)
Máslás. Light Transylvanian (Austria).
Mataro. Claret type—Spanish, U. S. and Australian.
Matzner. Red Austrian.
Mauerer. Red Austrian.
Mauler. Swiss "champagne."
Mavrodaphne. GREEK.*
Maximim-Grünhaus. Ruwer (see RHINE WINE).
Méal. HERMITAGE.*
Médoc. CLARET.*
Melnicker. Red Bohemian.
Méneser. HUNGARIAN.*
Mercurey. Red Burgundy.
Merkensteiner. Red Austrian.
Merzaminos. Dark red Austrian.
Meursault, Meursault-Charmes. White BURGUNDY.*
Meursault-Santenot. Red Burgundy (Class III.).
Mezzolombard. Red Austrian (Italian Tyrol).
Minheimer. Moselle.
Mittleweyer. White Reichenweyer (Alsace-Lorraine).
Mondeuse. Strong red U. S., Burgundy-style.
Monnai. Red, from Pyrenées-Orientales, France.
Mousao. PORTUGUESE.*
Montalcino. Red and white, dry, from Tuscany, Italy.
Monteferraud. Claret.
Montepulciano. Purple, aromatic, spirituous, from Tuscany, Italy.
Montefiascone. Spirituous Italian, white and purple.
Montferrat. Light Italian.
Monthelhie. Red Burgundy.
Montilla. SHERRY.*
Montmaillon. French muscat.
Montmatriss. Red tawny Sicilian.
Montrachet. White BURGUNDY.*
Montu. White Italian.
Monzingener. White German, Moselle-style, Nahe Valley.
Morea. GREEK.*
Morgeot (Clos). Red Burgundy (Class III.).
Moscato ("Muscat"), Moscato Spumante, etc. ITALIAN.*
Moselbluemchen. Moselle (see RHINE WINE).
Moselle. See RHINE WINE.
Möttling. White Illyrian (Austria).
Moulin à Vent (Clos de). Red Burgundy.
Moulis. White Bordeaux.
Mountain Lagrima. Spanish liqueur wine.
Mouriseo. Red Portuguese.
Mouton-Rothschild. Claret.
Murets. HERMITAGE.*
Muscat, Muscatel, Muscato. MUSCAT.*
Musigny. Red Burgundy (Class II.).
Mustang. Fortified, red U. S.

N

Nachenheimer. Rhine Wine.
Nasco. Strong Italian.
Nauplia. Greek wines of numerous styles—red and white Corinth, etc. (see GREEK WINES).
Naxos. Pale red sweet Greek.
Nebbiolo, Nebbiolo Spumante. ITALIAN.*
Nectar. See NECTAR and GREEK WINES.
Neefer. Moselle.
Neftenbacher. Red Swiss.
Negrara. Red Austrian (Italian Tyrol).
Neirano. Red dry Italian.
Neroberger. Rhine Wine.
Neszeling. White Hungarian.

*SEE SPECIAL ARTICLE.

Nesmélyer. HUNGARIAN.*
Neufchatel. Various types of Swiss wines, including "Neufchatel Champagne."
Niersteiner. RHINE WINE.*
Nippozzono. White, dry, from Tuscany, Italy.
Noley. Red Burgundy.
Nonnenberger. Rhine Wine.
Norheimer. White German, Moselle-style, Nahe Valley.
Norton. U. S. CLARET.*
Noussa. Red dry fruity Greek, from Mt. Olympus.
Noyer. Red Burgundy (Class III.).
Nuits. Red BURGUNDY.*
Nussberger, Nussdorfer. White Austrian.

O

Oberemmeler. German wine, Moselle-style, Saar Valley.
Oberfelder Kindermacher. Mild Illyrian (Austria).
Ober-Ingelheimer. Red RHINE WINE.*
Oberlander. Red dry Swiss.
Oberlinger. Alsace-Lorraine, white.
Ockfen. Saar (see RHINE WINE).
Odelsberger. Moselle.
Odenberger, or Oedenburger. Sweetish white Hungarian.
Oeil de Perdrix, or "Pheasant's Eye." Sparkling red Burgundy.
Oestricher. 1—Rhine Wine. 2—White Austrian.
Ofen, Ofner, Adelsberger. HUNGARIAN.*
Ohligsberger. Moselle.
Ojo de Gallo, or "Cock's Eye." Aromatic, very brilliant, red Spanish.
Olewig Neuberger. Moselle.
Oloroso. SHERRY.*
Opoul. Red, from Pyrénées-Orientales, France.
Oppenheimer. RHINE WINE.*
Orsan. Dry, red, from Drome, France.
Or (clos d'). White Bordeaux.
Orvietto, Orvietani. Sweet Italian, red and white.
Osterberger. Still white Rappoltsweiler (Alsace-Lorraine).

P

Pajerete. Gold sweet Spanish.
Palatinate Wines. See RHINE WINE.
Palma. SHERRY.*
Palo Cortado. SHERRY.*
Passerretta Spumante. An Italian "champagne."
Passito. Sweet Italian.
Passum. Sweet topaz-colored Turkish.
Patras. GREEK.*
Pauillac. CLARET.*
Pedro Jiminez. 1—Tawny Spanish, Malaga-style. 2—Soft gold Australian.
Péléat. HERMITAGE.*
Perchtelsdorfer. White Austrian.
Perrière. Burgundy, red and white.
Pesti. HUNGARIAN.*
Pettauer. White Austrian.
Piantadella. Syrupy red Illyrian (Austria).
Picardin. Still, red, dry, spirituous, from Hérault, France.
Piccolit. 1—Sweet Italian. 2—Thick sweet Illyrian (Austria) "straw wine."
Pickerer. White Austrian.
Pierrel'e. HERMITAGE.*
Piesporter. Moselle (see RHINE WINE).
Pineau (blanc, gris, noir). Burgundy-style—the two first white and the third red—from Pineau grapes.
Pinuclo (Vino). Deep-tinted white Spanish.
PIQUETTE.*
Pitoy. Red Burgundy.
Ploeschowitz. White Moravian.
Poggiosecco. Red, from Tuscany, Italy.
Pollau. White Moravian.
Pomerol. Claret.
Pomino. Chianti-style from Tuscany, Italy.
Pommard. Red BURGUNDY.*
Pommard-Rugiens. Red Burgundy (Class III.).
Pontac. See *Constancia*, this list.
Pontet-Canet CLARET.*
Porrets. Red Burgundy (Class III.).
PORT.*
Posillips. Red Italian.
Poutures. Red Burgundy (Class III.).
Prannuan-Malvasia. Sweet topaz-colored Turkish.
Preaux. Red Burgundy.
Preignac. 1—Claret. 2—White Bordeaux.
Priorato. Red Spanish, resembling fruity port.
Prosecco. 1—Italian, red and white. 2—Reddish-yellow Austrian "straw wine."
Prulièrs. Red Burgundy (Class III.).
Puligny. Red Burgundy.

R

Radisalle. White Austrian.
Radkersburger. Sweet white Austrian.
Rametzer, Schloss Rametzer. Red and white Austrian (German Tyrol).
Rancio. 1—Red SPANISH.* 2—RIVESALTES* and similar wines from other parts of South France.
Rappoltsweiler. Wines of various styles produced in Alsace-Lorraine.
Rauenthaler. RHINE WINE.*
Rausan, Rauzau. Claret.
Rauschenbruch. White Moravian.
Raya. SHERRY.*
Refoscos. Dark red Austrian.
Reichenweyer. Wines of various styles from Alsace-Lorraine.
Reiler. Moselle.
Reinhardtshausen. Rhine Wine.
Revention. Red, from Isère, France.
Rheingold. Sparkling white German.
RHINE WINE.*
Ribolla. White Italian.
Richebourg. Red BURGUNDY.*
Riesling. See RIESLING and RHINE WINE.
Rimini. Red Italian.
Rioja Blanco. Spanish "Sauternes."
Rioja Clarete. Spanish "claret."
Rionero. Heavy red Italian.
Ripa. Red, dry, from Tuscany, Italy.
Risbacher. Rhine Wine.
Rittersberger. Sweet white Austrian.
RIVESALTES.*
Roi (Clos du). Red Burgundy (Class III.).
Romanée, Romanée Conti. Red BURGUNDY.*
Romanée St. Vivant. Red Burgundy (Class II.).
Roquemaure. Dry, rose-colored, Rhone district.
Rosa (Vin doux). Sweet, rose-tinted, from Mt. Lebanon.
ROSOLIO.*
Rota. See *Tinto de Rota*, this list.
Rothenberger. Rhine Wine.
Roucoule. Red Hermitage.
Roussillon. Fruity, spirituous, deep-colored, dry and sweet, from Pyrénées-Orientales, France.

*SEE SPECIAL ARTICLE.

Roveredo. Red Austrian (Italian Tyrol).
Rózsamáler. Red Transylvanian (Austria).
Ruberberger. Moselle.
Rudesheimer. RHINE WINE.*
Ruffino. White Italian.
Ruppertsberger. Palatinate (see RHINE WINE).
Rusivica. Deep red, sweet Dalmatian (Austria).
Ruster, or Ruszti. HUNGARIAN.*
Ruwersteiner. Moselle-type, Ruwer Valley.
Ruy. Red, from Isère, France.

S

Sabayes. White Spanish.
SACK.*
Sacra Tent. SPANISH.*
Sagunto. Red Spanish.
St. André. Claret.
" Cancian. White Illyrian (Austria).
" Chef. Red, from Isère, France.
" Chrystoly. Claret.
" Chrystol. } Red, sweet, from Hérault, France.
" Drézery. }
" Elie. GREEK.*
" Emilion. } CLARET.*
" Estèphe. }
" Etienne. Claret.
" Genies. Sweet, rose-colored, from Rhone district, France.
" Georger. White Hungarian (Pressburg).
" Georges. Red, sweet, from Hérault, France.
" Georges (Clos). Red Burgundy (Class II.).
" Gervais. Claret.
" Gilles. Spirituous purple, from South France.
" Hippolyte. 1—Claret. 2—White Reichenweyer (Alsace-Lorraine).
" Julien. CLARET.*
" Lambert. Claret.
" Laurent. Claret.
" Laurent des Arabes. Dry, red, from Drome, France.
" Loubès. Claret.
" Macaire. Claret.
" Magdalène. Red Austrian (German Tyrol).
" Martin de Mazerat. Claret.
" Peray. Dry, white, sparkling and still, from Rhone district, France.
" Pey-de-Langon. White Bordeaux.
" Pierre. Claret.
" Prex. Deep red, spirituous Swiss.
" Saom. Red, from Isère, France.
" Saphorin. White dry Swiss.
" Verand. Red, from Isère, France.
" Vivien. Claret.
Salarem. Red Portuguese.
Salces. Red, sweet, from South France.
Salurner. Red and white Austrian (German Tyrol).
Salvagnin. Deep red, spirituous Swiss.
San Michele. Red Austrian (Italian Tyrol).
San Sidero. Sicilian, amber, sherry-style.
Santa Venera. Red soft spirituous Sicilian.
Santenay. Red Burgundy.
Santenot. Burgundy, red and white.
Santo, Santorin. GREEK.*
Sartena. Sweet red Corsican.
Sassela. Red dry Italian.
SAUMUR.*
Sausaler. White Austrian.
Sauternes. White BORDEAUX.*
Sauvignon. Several kinds from Sauvignon grapes.
Savigny. Red Burgundy.
Scharlachberger. RHINE WINE.*
Scharzberger, Scharzhofberger. Saar (see RHINE WINE).
Schottan. White Moravian.
Schiersteiner. Rhine Wine.
"Schiller" wines. A class of pale light Austrian.
Schlossberger. White German, Moselle-style, Nahe Valley.
Schmitsberger. Sweet white Austrian.
Schonberg Riesling. White Reichenweyer (Alsace-Lorraine).
Schrattenthaler. Red Austrian.
Schwabenheimer. Rhine Wine.
Schwanberger. Light red Austrian.
SCUPPERNONG.*
Seewein. White Austrian (German Tyrol).
Sercial. MADEIRA.*
Sestri Levante. White Italian, from Genoa.
Setural. White Portuguese.
SHERRY.*
Shiebbs. White Austrian.
Shiraz. Sweet rich Persian—red, amber and white.
Sieblingener. White dry Swiss.
Simonthurn. Sweetish red Hungarian.
Siracusa. ITALIAN.*
Sittersdorfer. Deep red Illyrian (Austria).
Sliwowitz. White Hungarian. See also SLIVOVITZ (liqueur).
Solera. See SHERRY. The term is also similarly employed in Madeira.
Som, or Sombor. Delicate white Transylvanian (Austria).
Somlauer, or Somloi. HUNGARIAN.*
Sommerauer. Moselle.
Sonoma (sparkling). U. S. champagne-style, named after the County of Sonoma, Cal.
"SPANISH REDS."*
Stadtberger. Light red Illyrian (Austria).
Steeger. Rhine Wine.
Steffensberger. Moselle.
Steinberger. 1—RHINE WINE.* 2—Austrian.
Steinwein. Franconia (see RHINE WINE).
Strasser. White Austrian.
Straw Wine. The pressings of very ripe grapes which have been dried on reed or straw mats. Syrupy, spirituous and sometimes slightly acidulated.
Styrian Wines. Austrian wines from the province of Styria—Luttenberger, Schiller, etc., and "Styrian Champagne."
Sultzmelt. Still, white, from Alsace-Lorraine.
Sunbury. Delicate red dry Australian.
Syracuse. "Siracusa" (ITALIAN).*
Syrmier. White Hungarian.
Szamorodni, Szamorodnyer. HUNGARIAN.*
Szegszarder. HUNGARIAN.*

T

Tabris. Sweet Persian, red and white.
Tarragona Port. See PORT.
Tart (Clos de). Red Burgundy (Class II).
Tavannes (Clos). Red Burgundy.
Tavel. Very dry, rose-colored, from Rhone district, France.
Teher. Sweet Persian, red aud white.
Temprano. White Australian, sherry-style.
Teneriffe. CANARY.*
Terasse, La. Red, from Isère, France.
Terlauer. White Austrian (German Tyrol).

*SEE SPECIAL ARTICLE.

Terma. White, light bodied Portuguese.
Termo Tinto. Red Portuguese.
Terran. Mild, deep-colored Illyrian (Austria).
Terre Forte. Very strong Sicilian.
Tetenyer. Slightly sweet, deep red Hungarian.
Thaurey. Red Burgundy (Class III.).
Thera. Greek, dry-Madeira-style.
Thiergaertner. Moselle.
Thurgau. Swiss, red and white.
Tintara. Tawny strong Australian.
Tinto de Rota. Dry red Spanish.
Tipo Chianti—Asti, etc. Wines of Chianti, Asti and kindred style or "type," made in America.
Tófalver. Transylvanian (Austria) Riesling.
Toggenburger. White Austrian (German Tyrol).
Tokay.*
Tonnerre. Burgundy-style, from Yonne, France.
Topaz Villa Flor. Aromatic, dry and sweet, Portuguese.
Torre Giulia. Italian, red and white.
Torres-Vedras. Pale red, sweet Portuguese.
Trabener. Moselle (see Rhine Wine).
Traminer. White German and Austrian, from Traminer grapes.
Trarbacher. Moselle.
Trebbiano. Gold syrupy Italian.
Trittenheimer. Moselle.
Trockenbeer. Rhine Wine.
Trogslaver. Red and white Bohemian.
Trojer. White Bohemian.
Türkheimer. White, from Alsace-Lorraine and S. W. Germany.

U

Uchard. Red, sweet, from South France.
Uerziger. Moselle.
Ungsteiner. White German.
Uvaccia. Syrupy, spirituous Austrian (Istria).
Uvaggio. Any Italian wine from mixed grapes.

V

Val de penas. Spanish—(1) white, sweet; (2) dry sub-bitter red.
Valence, or Valencia. Red sweet Spanish.
Valmagra. Red dry Italian.
Valpolicello. Red dry Italian.
Varognes. Hermitage.*
Vaucrains. Red Burgundy (Class III.).
Vauvert. Red, sweet, from South France.
Veltelin. Red Swiss.
Verdeilho. 1—Madeira.* 2—Australian wine of Madeira type.
Vermouth.*
Vernaccio. Straw-color Italian.
Vesuvio. Italian, red and white.
Vigue de Monsieur. Red Roumanian.
Villa Salto. Sicilian, amber, sherry-style.
Villanyi. Hungarian.*
Vin, Vini, Vino. Signifies "wine." For "Vin Rancio," etc., see *Rancio*, etc.
Vino de Pasto. 1—Sherry.* 2—Red Italian.
Vino Santo. Italian.*
Vinos Tintos. "Spanish Reds."*
Vinum Altaris. Sweet red Spanish for altar purposes.
Visp. Red dry strong Swiss.
Vollradser. Rhine Wine.
Volnay. Red Burgundy.*
Volnay-Santenot. Red Burgundy (Class III.).
Voslauer. See Hungarian and Austrian.
Vosné. Red Burgundy.*
Vougeot, Clos de Vougeot. Red Burgundy.*
Vouvray. White, sparkling, from Tours, France.
Vugava. Sweet gold Austrian.
Vukovárer. Red Hungarian.

W

Wallershak. White Austrian.
Walporzheimer. Red Rhine Wine.*
Waltershof. White German.
Wawerner. Moselle.
Wehlener. Moselle.
Weidlinger. White Austrian.
Weinberger. White Austrian.
Weisskirchen. Hungarian wines, white and red.
Werschetzer. Hungarian wines of various styles.
Wickerer. Rhine Wine.
Wiltengen. Saar (see Rhine Wine).
Windischbuchler. White Austrian.
Winkeler. Rhine Wine.
Winninger. Moselle.

X

Xeres Wine. Sherry.*

Y

Yering. Delicate red dry Australian.
Yvorne. Swiss.*

Z

Zahnacker. White Ruppoltsweiler (Alsace-Lorraine).
Zeltinger. Moselle (see Rhine Wine).
Zinfandel.*
Zlatarizza. Rose-color strong Dalmatian (Austria).
Zucco. Red Italian.

*SEE SPECIAL ARTICLE.

WINE CRADLE: a small basket, somewhat resembling a sauce-boat in shape, specially designed to hold a wine bottle, lying down. It has a handle at one end, and at the other, a groove or depression to hold the neck of the bottle. It is used to pour out wines, such as Burgundies and fine clarets, without disturbing the sediment accumulated along the side of the bottle as it has lain in the cellar bin. The bottle should be placed in the basket in the same position that it has occupied in the bin, care being exercised not to agitate it, nor to stand it up even for a moment, or the sediment will be mixed with the wine.

WINE VINEGAR. See general article under heading of Vinegar.

WINTER CHERRY: one of many names for the GROUND CHERRY (which see).

WINTERGREEN FLAVOR, or EXTRACT: employed in confectionery and medicinally, owes its title to its original source, the Wintergreen shrub or plant—known botanically as *Gaultheria procumbens,* a member of the Heath family, and locally in some sections as "Checkerberry," "Tea-berry," etc.—whose leaves yield the true Wintergreen Oil or Oil of Gaultheria.

The principal present source of natural *so-called* wintergreen oil is the Black Birch, *Betula Lenta,* from the twigs and leaves of which is produced Oil of Betula, which is chemically identical with Oil of Gaultheria.

Wintergreen Extract is made by dissolving the oil in alcohol.

There is a shrub of the Madder family botanically classed as *Mitchella repens,* which is also known in some parts of the country as the "Checkerberry," and in others as the "Wintergreen," but it contains no oil and has no relation to the Wintergreen of the Heath family. It, however, supplies edible berries which, though dry and tasteless to the palate, are said to possess considerable medicinal virtue, being both tonic and soothing.

Wintergreen

WOANDSU: a newly discovered food plant, native to tropical Africa. It resembles the peanut in its manner of growth and furnishes a very white flour of exceptionally high and well-balanced food value, which, after cooking, has a pleasing chestnut flavor. The kernel is egg-shaped, dark red, with black stripes and a white hilum.

WOODCOCK (*see Color Page facing* 260): one of the most popular of the smaller game birds, found in many parts of Eastern North America, from Canada to the Gulf. It averages a little larger than a snipe and is distinguished by its long beak—utilized for boring for earth-worms, its favorite diet; short, thick neck; compact, rounded body and short wings and legs. Its upper plumage is a varied grey, buff, brown and black; the under parts are a reddish-brown. The flesh is dark and rich in flavor. The European woodcock is a similar bird of larger size.

WOODRUFF: a plant of the Madder family, which grows freely both in this country and Europe. It varies from six to eighteen inches in height and bears a quantity of small whitish flowers. When fresh, it has little scent, but the dried leaves possess a lasting perfume suggestive of new-mown hay. It is employed in various ways, the most noteworthy perhaps being as flavoring for "May Wine," or *Maitrank,* the leaves being steeped for a short time in a punch of Rhine or mixed wines. Dried Woodruff for this purpose is sold in tin boxes, generally under the title of *Waldmeister zur Bowle.*

The detached leaves are also placed in closets, drawers, etc., to repel insects.

WORCESTERSHIRE SAUCE. See general article on SAUCES.

WORMWOOD. See *Absinthium* in article on ABSINTHE.

YAMS: the tuberous roots of a climbing plant. They resemble sweet potatoes in general characteristics and are extensively used as food in the West Indies and other tropical regions. Large specimens frequently weigh thirty pounds or more.

The two best varieties are the "Yampie" of Jamaica, and the "Barbados Yam," both of them of marked delicacy of flavor. Properly prepared by long boiling, they are to most palates superior to even the finest sweet potatoes.

YEAST: is the family name of those tiny plants or micro-organisms belonging to the *Fungi* class which reproduce themselves by budding. There are many varieties, but they are all oval or round, colorless and nearly transparent, except when great numbers are bulked together, and so small that singly they cannot be discerned by the naked eye. The mature plant or cell develops a bud which rapidly increases in size and detaches itself from the parent plant, to itself bud and develop another cell —and so on indefinitely. The new cell frequently commences to bud before it detaches itself from the parent plant, and the latter may produce a second bud before the first is detached—resulting often in the formation of clusters of several cells before disintegration. The multiplication is very rapid where the food supply is favorable.

Yeast plants are present everywhere. They flourish best in foods containing sugary solutions in moderate amount, or substances convertible into sugar, but sugar itself is immune, except some moist varieties such as maple sugar. Thus in the household they will speedily multiply in the jelly that is left exposed in a warm room and cause it to ferment, but they cannot grow in the dry sugar nor in the heavily sugared jam standing at its side.

These "wild" yeast cells must be kept out of food, for their uncontrolled, unregulated growth often spoils it by producing undesired fermentation. The cultivated yeast plant is, on the other hand, one of the most valuable of human food assistants.

The usefulness of properly controlled yeast is found in the fact that the action of its "enzymes" or secretions on the sugary contents of the matter, whether bread dough or grape juice, etc., in which it falls or is placed, is to convert the sugar into alcohol and carbon-dioxide (carbonic acid gas). Of these two, only the alcohol is retained in still wines, spirits, etc., but sparkling wines, beer, etc., include also a small amount of the carbon-dioxide. In bread making, the alcohol, comparatively unimportant in quantity and effect, is lost by evaporation in baking. The carbon-dioxide also passes away in the oven—but in the dough set to rise, it produces the hundreds of little bubbles or cavities which give the loaf the desired porous character (see article on BREAD).

Another good example of the action of yeast is seen in the home manufacture of root beer and similar beverages. The extract purchased provides the agreeable herb flavor, but the directions for making require the addition of both yeast and sugar, and it is the action of the yeast on the sugar which gives the slightly exhilarating quality (from the small percentage of alcohol produced) and the effervescence (from the action of the carbon-dioxide).

It is the wild yeast in grape and apple skins which produces the bulk of our wine and cider, by causing fermentation in the juice of the grapes and apples, but with these exceptions nearly all the yeast plants utilized are those of carefully selected, specially cultivated varieties. The fermentative process which precedes the manufacture of whisky, rum, etc., is always produced by cultivated yeast. Bread dough, if left to

stand in a warm room, will generally "rise," as a result of the activity of the wild yeast which has fallen in it, but the results are uncertain and irregular compared with those obtained by the use of cultivated yeast.

Yeast grows most freely between 70° and 95° Fahr., so the temperature of a good refrigerator will prevent propagation. Food in which wild yeast has begun to grow, but in which it has not progressed sufficiently to do considerable damage, can be saved by boiling, or its equivalent heat in other forms of cooking. Heat is the only effective destroyer. It must be remembered, however, that unless the food thus freed is effectually covered or placed in a refrigerator, it is just as liable as before to suffer fermentation from new wild yeast getting into it.

Cultivated yeast consists of selected wild cells, propagated in appropriate food material. If undisturbed, they will multiply until the whole is a mass of practically pure yeast. Different kinds are grown for special purposes; as a variety which may be very good for beer, for example, may not be desirable in color or taste for bread.

Commercial *Compressed Yeast* is obtained from distillery fermenting vats by skimming or separating from the "wort" and then cleansing, etc., or by sowing selected yeast cells in vats filled with a mixture of malt and rye or corn, or boiled potato mash, etc., and water, held at a moderately warm temperature. Boiling the water with a small quantity of hops, followed by straining, frequently precedes the addition of the malt or potato mash, partly for the agreeable flavor but principally to retard the growth of any bacteria present. As the cells multiply, they collect in a thick coating on the surface. This is skimmed off from time to time, washed, freed from part of the water and made into the soft, rather soggy cakes sold in such enormous quantities for both household and bakers' use. When fresh, nearly all the cells will be found alive and vigorous—there are millions of them in each cake, mixed with starch, etc.—but after two or three days many of them die and the yeast will show less and less vigor. In time, bacteria, another form of micro-organism, will develop in the cake and spoil its flavor. It is consequently best to use Compressed Yeast while perfectly fresh. If this is impossible, its life may be prolonged by placing the cakes in cold water and setting in the ice chest. It should never be exposed to temperature below the freezing point.

Next after Compressed Yeast in strength and utility for bread making, is *Brewer's Yeast*, the brownish frothy top yeast from the fermenting vats of ale or beer. It answers the same purpose, but is not so vigorous, and sometimes gives a slightly bitter taste.

Beer yeast is also used to a limited extent by physicians. It makes an appetizing "Bouillon," somewhat resembling beef tea, and is given as a stimulant in low fevers when inflammatory symptoms make the use of wine inadvisable.

Dried Yeast, in cakes or powder, is Compressed Yeast dried at low heat. The process kills some of the plants and thus lessens the vigor of the yeast, but a good many are left in a dormant condition and the advantage is that it will, under suitable conditions, keep for several weeks, and sometimes months. It must, however, be handled with care, as its vitality is destroyed or lessened by falls, bruises, etc., and by excessive heat or cold.

The live cells of Dried Yeast begin growing again when moistened. The best plan is to put the cake or powder in a little sweetened warm water shortly before using.

Both Compressed and Dried yeasts vary in purity and hence in value, so that it is advisable to purchase from concerns of recognized experience and integrity.

YELLOW TAIL: a name given in various parts to many different kinds of fish. The best known is the California Yellow-tail (*Seriola Dorsalis*), a large fish, plentiful along the coast and highly esteemed for food.

ZAPOTE: one of several names for the SAPODILLA (which see).

ZINFANDEL: a California claret of excellent repute, made chiefly from the Zinfandel grape, which supposedly originated in the Cier Fandel grape-stock, imported from Hungary.

ZOOLAK, or **Matzoon:** a fermented preparation of cow's milk resembling the modern KUMISS (which see), except that the milk is sterilized before the addition of the bacteria culture used as a ferment.

Fermented milk, known as *Yoghoord*, has been for centuries an article of daily diet in Armenia, Persia and other Oriental countries, the fresh product being very seldom consumed by the native inhabitants. It is also employed as a specific in many forms of sickness, the patient being restricted to its consumption exclusively.

ZWIEBACH, or **Zwieback:** is a product whose name describes its manufacture, the word (in German) signifying "twice baked." That put on the market by large manufacturers is made from a special dough, raised by yeast like ordinary bread but containing more milk than water and frequently including also eggs and butter—and, for sweetened varieties, sugar and a little flavoring. The dough is molded in shapes according to the variety, well proved and baked; then left to cool for several hours, sliced and re-baked dry to a nice brown. The industry originated in Germany, and there is still a small annual importation from that country, but the great bulk of the supply is of domestic manufacture.

Among the best known special types are *Hamburg Zwieback*, like round rolls cut in two across; *Vienna Zwieback*, in long ovals or finger shape; *Hungarian Zwieback*, finger-shaped, wider at each end than in the middle, covered with icing and baked brown; *Saxon Zwieback*, finger-shaped, sliced; *Anise Zwieback; Hamburg Children's Zwieback*, a specially light style for children and invalids, and several kinds made for dietetic purposes of *Gluten* or *Malted Bread.*

Supplementing the varieties described, is a large quantity made from ordinary bread, either sweetened or unsweetened, cut in slices and slowly baked till thoroughly crisp. For ordinary unsweetened use, it is best prepared from Vienna bread, but almost any kind of baker's bread will answer the purpose. Home-made bread will seldom give satisfactory results.

Zwieback is eaten in place of cake or bread and is also sometimes used for cooking. It is considered very wholesome. It is best consumed fresh, but if held in a cool dry place it can be kept for some time by occasional additional toasting or baking to remove any moisture attracted.

ZWETSCHENWASSER: the German form of SLIVOVITZ (which see).

HOME ECONOMICS DEPT.

APPENDIX

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DICTIONARY OF FOOD NAMES IN FIVE LANGUAGES.

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
ALCOHOL	Alcool	Alcohol. Weingeist. Spiritus	Alcool	Sprit. Alkohol
ALE	Ale. Aile	Englisches Bier. Ale	Birra inglese	Engelskst öl
ALLIGATOR PEAR	Avocat	Avocado-Birne	Pera avvocato	Alligator-päron
ALLSPICE	Piment de la Jamaïque	Nelkenpfeffer	Coccola di pimento	Kryddpeppar
ALMONDS	Amandes	Mandeln	Mandorle	Mandel
Bitter almonds	Amandes amères	Bittere Mandeln	Mandorle amare	Bittermandel
Burned almonds (in sugar)	Amandes pralinées	Gebrannte Mandeln (Zuckermandeln)	Mandorle abbrustolite (in zucchero)	Brända mandlar
Shelled almonds	Amandes cassées	Geschälte Mandeln	Mandorle shucciate	Krakmandel
Sweet almonds	Amandes douces	Süsse Mandeln	Mandorle dolci	Sötmandel
ALMOND PASTE	Pâte d'amande	Mandelteig	Pasta di mandorla	Mandelmassa
ANCHOVIES	Anchois	Anschoven	Acciughe	Ansjovis
Anchovy butter	Beurre d'anchois	Anschovenbutter	Burro di acciughe	Ansjovissmör
Anchovy paste	Pâte d'anchois	Anschovenpaste	Pasta di acciughe	Ansjovismassa
Anchovy sauce	Sauce d'anchois	Anschoveusauce	Acciugata	Ansjovissås
ANISE	Anis	Anis	Anice	Anis
APPLES	Pommes	Äpfel	Mele	Äpplen
Cooking apples	Pommes à cuire	Kochäpfel	Mele da cuocere	Matäpplen
Eating apples	Pommes à couteau	Tafeläpfel	Mele da mangiare	Dessertäpplen
Dried apples	Pommes tapées	Getrocknete Äpfel	Mele secche	Torkade äpplen
APRICOTS	Abricots	Aprikosen	Albicocche	Aprikoser
ARROWROOT	Arrow-root	Pfeilwurz	Arrowroot	Arrowrotmjöl
ARTICHOKES	Artichauts	Artischocken	Carciofi	Kronärtskockor
Artichoke bottoms	Fonds (*or* culs) d'artichauts	Artischockenböden	Fondi (*or* torsi) di carciofo	Kronärtskockbottnar
ASPARAGUS	Asperges	Spargel	Asparagi	Sparris
Green asparagus	Asperges vertes	Grüner Spargel	Asparagi verdi	Grön sparris
White asparagus	Asperges blanches	Weisser Spargel	Asparagi bianchi	Hvit sparris
Asparagus tips	Pointes d'asperges	Spargelköpfe	Punte d'asparagi	Sparris toppar
AVOCADO. See *Alligator Pear*				
BACON	Lard	Speck	Lardo	Rökt fläsk
BAKING POWDER	Levure en poudre	Backpulver	Polvere crescente	Jästpulver
BANANAS	Bananes	Bananen	Banane	Bananer
BARLEY	Orge	Gerste	Orzo	Korngryn

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
BAY LEAVES	Feuilles de laurier	Lorbeerblätter	Foglie d'alloro	Lagerbärsblad
BEANS	Fèves	Bohnen	Fave. Fagiuoli	Bönor
Kidney beans	Haricots	Welsche Bohnen	Fagiuoli	Turska-bönor. Bruna bönor (*brown beans*)
Lima beans	Haricots de Lima	Lima-Bohnen	Fagiuoli di Lima	Lima-bönor. Bond-bönor
Navy beans	Haricots blancs secs	Getrocknete Bohnen	Fagiuoli secchi	Hvita bönor
String beans	Haricots verts	Grüne Bohnen	Fagiuolini	Skärbönor
Wax beans	Haricots à cosse jaune	Wachs Bohnen	Fagiuolini gialli	Vaxbönor
Young green beans	Flageolets	Grüne Bohnen Kerne	Fagiuoli giovani	Gröna bönor
BEECHNUTS	Faines	Buchecker	Faggiole	Boknötter
BEEF	Boeuf	Rindfleisch	Manzo	Oxkött
Corned beef	Boeuf salé	Gepökeltes Rindfleisch	Manzo salato	Salt oxkött
Roast beef	Boeuf rôti. Rosbif	Rinderbraten	Rostbif. Manzo arrosto	Oxstek. Rostbiff
Spiced beef	Boeuf épicé	Gewürztes Rindfleisch	Manzo aromatico	Kryddad oxkött
Dried beef	Boeuf boucané	Getrocknetes Rindfleisch	Manzo seccato	Torkadt oxkött
BEEFSTEAK. See *Steak*				
BEEF EXTRACT. See *Meat Extract*				
BEER	Bière	Bier	Birra	öl
BEETROOTS	Betteraves	Runkelrüben	Barbabietole	Betor. Rödbetor (*red beets*)
BERRIES	Baies	Beeren	Bacche	Bär
BISCUITS	Biscuits	Zwieback. Biskuit	Biscotti. Biscottini	Kex. Skorpor
BITTERS	Amers	Magenbitter	Amari	Bitter-vin. Malört
BLACKBERRIES	Baies de ronce	Brombeeren	More di rovo	Björnbär
BLOATERS	Harengs bouffis	See *Herring (Smoked)*		
BLOOD	Sang	Blut	Sangue	Blod
BLOOD PUDDING	Boudin	Blutwurst	Sanguinaccio	Blodpudding. Blodkorf
BLUEBERRIES. See *Huckleberries*				
BONE	Os	Knochen	Osso	Ben
BRAINS	Cervelle	Gehirn	Cervella	Hjärna
BRANDY	Eau de vie	Cognak. Branntwein	Acquavite. Cognac	Konjak
BRAWN. See *Head Cheese*				
BRAZIL NUTS	Noix de Brésil	Paranüsse	Noci del Brasile	Brasilnötter
BREAD	Pain	Brot	Pane	Bröd
Brown bread (or Graham bread)	Pain bis	Schwarzbrot	Pan nero. Pane bruno	Groft bröd
Home-made bread	Pain de ménage	Hausbrot. Selbstgebackenes Brot	Pane casalingo	Hembakadt bröd
New bread	Pain tendre	Frisches Brot	Pane fresco	Färskt bröd
Rye bread	Pain de seigle	Roggenbrot	Pane di segala	Rågbröd
White bread	Pain blanc	Weissbrot	Pane bianco	Hvetebröd
BREAST (of a bird or lamb)	Poitrine	Brust	Petto	Bröst (*of birds*) Bringa (*of lamb*)

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
BREAST (brisket)	Brisquet	Bruststück	Petto	Bringa
BRINE	Marinade	Salzwasser. Lake	Salmoja	Saltlake. Saltvatten
BRISKET. See *Breast*				
BROCCOLI	Brocoli	Brokoli. Spargelkohl	Broccoli	Sparriskål
BROTH	Bouillon	Fleischbrühe	Brodo	Kraftsoppa
BRUSSELS SPROUTS	Choux de Bruxelles	Rosenkohl	Broccoli di Brusselle	Brysselkål
BUCKWHEAT	Sarazin	Buchweizen	Saggina	Bohvete
BURGUNDY (wine)	Vin de Bourgogne	Burgunder Wein	Vino di Borgogna	Bourgognevin
BUTTER	Beurre	Butter	Burro	Smör
Cooking butter	Beurre de cuisine	Kochbutter	Burro per cuocere	Matsmör
Salt butter	Beurre salé	Gesalzene Butter	Burro salato	Salt smör
BUTTERMILK	Lait de beurre	Buttermilch	Siero di latte	Kärnmjölk
CABBAGE	Chou	Kohl. Kraut	Cavolo	Hvitkål
Red cabbage	Chou rouge	Rotkohl	Cavolo rosso	Rödkål
CAKE	Gâteau	Kuchen	Focaccia	Kaka
CALF'S BRAINS	Cervelle de veau	Kalbshirn	Cervella di vitello	Kalfhjärna
CALF'S HEAD	Tête de veau	Kalbskopf	Testa di vitello	Kalfhufvud
CALF'S LIVER	Foie de veau	Kalbsleber	Fegato di vitello	Kalflefver
CANDY	Candi. Bonbons. Sucreries	Zuckerwerk. Bonbons	Confetti. Dolci. Chicche.	Karameller. Konfekt (*fancy*)
CANTALOUPE	Cantaloup	Kantalupe. Bisam Melone	Meloncini. Mellone muschiato	Kantaloup-melon
CAPERS	Câpres	Kapern	Capperi	Kapris
CAPON	Chapon	Kapaun	Cappone	Kapun
CARAWAY SEED	Cumin des prés	Kümmelsame	Seme di carvi	Kummin
CARBONATE OF SODA. See *Soda*				
CARBONATED WATERS	Eaux carbonatées	Kohlensäurehaltige Wasser	Acque carbonate	Sodavatten
CARDAMOM	Cardamome	Kardamom	Cardamomo	Kardemumma
CAROB-BEAN	Caroube	Johanuisbrot	Carruba	Johannesbröd
CARROTS	Carottes	Mohrrüben. Karotten	Carote	Morötter
CASSIA (bark)	Casse aromatique	Kanehl	Cassia (corteccia)	Kassiabark
CATSUP	Sauce anglaise preparée de champignons, ou tomates, etc.	Pikante Sauce von Schwämmen oder Tomaten, etc.	Conserva liquida di funghi o pomi d'oro, ecc., per condire vivande	Pikant sås af champinjoner, eller tomater, etc.
CAULIFLOWER	Choufleur	Blumenkohl	Cavolo fiore	Blomkål
CAVIAR	Caviar	Kaviar	Caviale	Kaviar
CELERY	Céleri	Sellerie	Sedano	Selleri
CHAMPAGNE	Champagne	Champagner. Sekt	Sciampagna. Champagne	Champagne
CHEESE	Fromage	Käse	Formaggio	Ost
Cream cheese	Fromage à la crème	Rahmkäse	Formaggio di crema. Formaggio grasso	Gräddost
Grated cheese	Fromage rapé	Geriebener Käse	Formaggio grattato	Rifven ost

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
CHEESE CAKE	Talmouse	Käsekuchen	Focaccia di formaggio	Ostkaka
CHERRIES	Cerises	Kirschen	Ciliegie	Körsbär
Candied cherries	Cerises glacées	Kandirte Kirschen	Ciliegie candite	Kanderade körsbär
CHESTNUTS	Marrons	Kastanien. Maronen	Castagne	Kastanjer
Candied chestnuts	Marrons glacés	Kandirte Kastanien	Castagne candite	Kanderade kastanjer
CHICKEN	Poulet	Huhn	Pollo	Unghöns
Roasting chicken	Poulet à rôtir	Brathuhn	Pollo per arrosto	Unghöns för Stekning
Spring chicken	Poulet de grain	Junges Huhn	Galletto. Pollastrino	Kyckling
CHICORY	Chicorée	Chicorie	Cicoria	Cikoria
CHILIES	Poivrons de Guinée	Cayennepfeffer	Pepe di Guinea. Peperoni	Spansk peppar
CHOCOLATE	Chocolat	Schokolade	Cioccolata	Chokolad
CHOPS	Côtelettes	Rippchen	Costolette	Kotletter
CIDER	Cidre	Apfelwein	Sidro	Cider. Äppelvin
CINNAMON	Cannelle	Zimmt	Cannella	Kanel
CITRON PEEL (candied)	Cédrat confit	Citronat. Sukkade.	Cedrato candito	Kanderad citronskal. "Succat"
CLAMS (hard)	Lucines orangées	Venusmuscheln	Genere di molluschi bivalvi (famiglia di veneri). V. CLAMS, p. 138.	Venus musslor
Soft clams	Lucines papillons	Weichmuscheln		Tråg musslor
CLARET	Vin de Bordeaux	Rotwein	Vino rosso. Vino di Bordo. Claretto	Rödvin
CLAWS (of shellfish, etc.)	Pattes. Pinces	Scheren. Klauen	Forbici. Tanaglie	Klor
CLOVES	Girofles	Gewürznelke	Garofani	Kryddnejlikor
COCKSCOMBS	Crêtes de coq	Hahnenkämme	Creste di gallo	Tuppkammar
COCOA	Cacao	Kakao	Cacao	Kakao
COCOANUT	Noix de coco	Kokosnuss	Noce di cocco	Kokosnöt
CODFISH	Morue. Cabillaud	Kabeljau	Merluzzo. Baccalà	Torsk. Kabiljo
Dried cod	Morue sèche	Stockfisch	Baccalà secco	Klippfisk. Stockfish. Torkad kabiljo
Salt cod	Morue salée	Laberdan	Baccalà salato	Saltad kabiljo
Cod sounds	Noues	Kabeljau-Blasen	Vescica di merluzzo	Simblåsor af torsk
Cod tongues	Langues de morue	Kabeljau-Zungen	Lingue di merluzzo	Tunga af torsk
COD LIVER OIL	Huile de foie de morue	Lebertran	Olio di fegato di merluzzo	Fisklefvertran
COFFEE	Café	Kaffee	Caffé	Kaffe
Whole coffee	Café en grains	Kaffeebohnen	Caffé in grani	Kaffebönor
Ground coffee	Café moulu. Café en poudre	Gemahlener Kaffee	Caffé macinato	Malet kaffe
Roasted coffee	Café grillé	Gebrannter Kaffee	Caffé tostato	Brändt (or Rostadt) kaffe
COLD SLAW	Salade de chou	Kohl Salat	Insalata di cavolo	Hvitkål sallat
CONDENSED MILK	Lait concentré	Condensirte Milch	Latte condensato	Kondenserad mjölk
CONFECTIONERY	Confiserie	Konditorei	Confettura	Konfekt. Sötsaker

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
CORIANDER	Coriandre	Koriander	Coriandoli	Koriander
CORN (Indian)	Maïs	Mais	Grano saraceno	Majs
Cornmeal	Farine de maïs	Maismehl	Farina saracena	Majsmjöl
Cornstarch	Fécule de maïs	Kornstärke. Maisstarke	Amido di grano	Majsstärkelse
CORN SALAD (plant)	Mâche	Feldsalad	Fu. Valeriana domestica	En sallat växt
CRAB	Crabe	Krabbe	Granchio	Krabba
Soft-shell crab	Crabe mou	Weichschalige Krabbe	Granchio a guscio molle	Krabba med mjukt skal
Oyster crab	Crabe d'huître	Austernkrabbe	Granchio ostrica	Ostronkrabba
CRAB APPLES	Pommes sauvages	Holzäpfel	Mele selvatiche	Vildäpplen
CRACKERS. See *Biscuits*				
CRANBERRIES	Airelles rouges	Preisselbeeren	Bacche di mortella	Tranbär
CRAYFISH	Écrevisses	Flusskrebse	Gambero d'acqua dolce	Kräftor. Flodkräftor
CREAM	Crème	Rahm. Sahne	Crema	Grädde
CREAM OF TARTAR	Crème de tartre	Weinsteinrahm	Cremor di tartaro	Cremor tartari. Vinsyradtkali
CRESS	Cresson	Kresse	Crescione	Krasse
CUCUMBER	Concombre	Gurke	Cetriuolo	Gurka
Pickled cucumbers	Concombres confits	Eingemachte Gurken	Cetriuoli sotto aceto	Ättiksgurkor. Saltgurkor Syltgurkor (*sweet pickled*) Inlagda gurkor (*spiced pickled*)
CURD	Caillé	Quark. Dicke Milch	Latte quagliato	Ostmysja
CURRANTS (fresh)	Groseilles	Johannisbeeren	Ribes	Vinbär
Currant jelly	Gelée de groseilles	Johannisbeergelee	Conserva (*or* Gelatina) di ribes	Vinbärsgelé
Currants (dried)	Raisins de Corinthe	Korinthen	Uva passa di Corinto	Korinter
CURRY	Curry. Karri	Curry	Curry, specie di condimento indiano	Kurry. Kurrypeppar
CUTLET	Côtelette	Rippchen. Kotelett	Costoletta	Kotlett
DAMSON (plum)	Damas	Damascener Pflaume. Zwetsche	Damoscina. Pruna di damasco	Damascenerplommon
DANDELION	Dent-de-lion	Löwenzahn	Macerone	Maskros
DATES (fruit)	Dattes	Datteln	Datteri	Dadlar
DESSERT	Dessert	Nachtisch. Dessert	Pospasto. Dessert. Frutta (*fruit*)	Dessert
DILL PICKLES	Concombres confits à l'aneth	Dillgurken	Cetriuoli sotto aneto	Dillgurkor
DUCK	Canard	Ente	Anitra	And
Wild duck	Canard sauvage	Wildente	Anitra selvatica	Vildand
EEL	Anguille	Aal	Anguilla	Ål. Insjöål (*freshwater*)
Sea eel	Congre	Meeraal	Grongo	Hafsål
EGGS	Œufs	Eier	Uova	Ägg

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
EGGPLANT	Aubergine	Eierpflanze	Melanzana	Äggplanta
ENDIVE	Endive	Endivien	Indivia	Endivia
ESCHALOTS. See *Shallots*				
EXTRACT	Extrait	Extrakt	Essenza. Estratto	Extrakt
FARINA				
1—(of ground corn)	Farine (de maïs)	Maisgries	Farina saracena	Majsmjöl
2—(of wheat middlings)	Semoule	Weizengries	Semolino	Semolinagryn
FAT	Graisse	Fett	Grasso	Fett
FEET	Pieds	Füsse	Piedi	Fötter
FIGS	Figues	Feigen	Fichi	Fikon
FILBERTS	Avelines	Lambertsnüsse	Nocciuole. Avellane	Filbertsnötter
FINNAN HADDIE. See *Haddock (Smoked)*				
FISH	Poisson	Fisch	Pesce	Fisk
Fresh water fish	Poisson d'eau douce	Süsswasserfisch	Pesce d'acqua fresca	Insjöfisk
Salt water fish	Poisson de mer	Meerfisch. Salzwasserfisch	Pesce di mare	Hafsfisk
FLOUR	Farine (de froment)	Mehl	Farina	Fint mjöl
Rye flour	Farine de seigle	Roggenmehl	Farina di segala	Rågmjöl
FOREQUARTER	Quartier de devant	Vorderviertel	Quarto davanti	Framfjärding
FOWL. See *Chicken*				
FROGS' LEGS	Cuisses de grenouilles	Froschschenkel	Gambe di ranocchie	Grodben
FROSTING (for cakes). See *Icing*				
FRUIT	Fruit	Obst. Frucht	Frutta	Frukt
Candied fruit	Fruits glacés	Kandirte Frucht	Frutta candita	Kanderad frukt
Dried fruit	Fruits secs	Getrocknete Frucht	Frutta secca	Torkad frukt
GAME (birds and animals)	Gibier	Wildbret (*animals*) Wildgeflügel (*birds*)	Selvaggiume	Vildt
GARLIC	Ail	Knoblauch	Aglio	Hvitlök
GARNISHING	Garniture	Garnierung	Guarnitura	Garnering
GELATINE	Gélatine	Gelatine	Gelatina	Gelatin
GHERKINS	Cornichons	Kleine Essig Gurken	Cetriuolini (all'aceto)	Vesterås gurkor
GIBLETS	Abatis	Hühnerklein	Frattaglie	Fågelkrås. Gåskrås
GIN	Genièvre	Wachholderbranntwein	Ginepro	Genever. Geneverbränvin
GINGER	Gingembre	Ingwer	Zenzero	Ingefära
Ginger ale	Boisson au gingembre	Ingwer-Ale	Birra di zenzero	(Ingefärs) Sockerdricka
Gingerbread	Pain d'épice	Pfefferkuchen	Pan pepato	Pepparkaka
GIZZARD	Gésier	Magen	Ventriglio. Ventriccio	Kräfva
GOOSE	Oie	Gans	Oca	Gås
Goose liver	Foie gras	Gänseleber	Fegato d'oca	Gåslefver
Gosling (or Green goose)	Oison	Juuge Gans	Papero	Gåsunge

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
GOOSEBERRIES	Groseilles à maquereau	Stachelbeeren	Ribes uva spina. Uva crespina	Krusbär
GRAPES	Raisins	Trauben	Uva	Vindrufvor
Grape jelly	Gelée des raisins	Traubengelee	Conserva d'uva	Drufgelé
Grape juice	Moût	Traubensaft	Sugo d'uva	Drufsaft
GRAPE FRUIT	Pamplemousse	Pompelmuse	Pampelimossa	Grape frukt
GREENGAGES	Prunes de reine claude	Reineclauden	Susine verdi	Reineclaude. Gröna plommon
GREENS	Légumes verts	Grünes Gemüse. Grünzeug	Verdura	Grönsaker
GROATS	Gruau	Grütze	Grano mondato	Krossgryn
GROUSE	Tétras	Waldhuhn. Moor-Huhn	Gallo di montagna	Ripa
GUAVA	Goyave	Guava	Guajava	Guavafrukt
GUINEA FOWL	Pintade	Perlhuhn	Gallina di faraone	Perlhöna
GUMBO. See *Okra*				
HADDOCK	Égrefin	Schellfisch	Specie di merluzzo	Kolja
Smoked haddock ("Finnan Haddie")	Égrefin fumé	Geräucherter Schellfisch		Rökt kolja
HAM	Jambon	Schinken	Giambone. Prosciutto	Skinka. Rökt skinka
HARD TACK	Biscuit de mer	Schiffszwieback	Galletta	Skepps-skorpor
HARE	Lièvre	Hase	Lepre	Hare
HAUNCH	Cimier	Hüfte. Schenkel	Anca	Lårstycke
HAZEL-NUTS	Avelines	Haselnüsse	Nocciuole	Hasselnötter
HEAD	Tête	Kopf	Testa	Hufvud
HEAD CHEESE	Fromage de porc	Schwartenmagen. Presskopf	Formaggio fatto colla testa di porco	Pressylta. Sylta
HEART	Cœur	Herz	Cuore	Hjärta
HEN	Poule	Huhn	Gallina	Höna
HERBS	Herbes	Kräuter	Erbaggio	Örter
Fine herbs. Sweet herbs. Aromatic herbs	Fines herbes. Herbes aromatiques. Aromates	Feine Kräuter. Gewürzkräuter. Küchenkräuter	Erbe fini. Erbe aromatiche	Kryddväxter
HERRING	Hareng	Hering	Aringa	Sill
Pickled herring	Hareng mariné. Hareng salé	Marinirter Hering Salzhering	Aringa marinata	Inlagd sill
Kippered (or Smoked) herring	Hareng saur	Geräucherter Hering	Aringa affumicata	Rökt sill
HINDQUARTER	Quartier de derrière	Hinterviertel	Quarto di dietro	Bakfjärding
HIP	Culotte	Schwanzstück	Anca	Höft
HOMINY	Semoule de maïs blanc	Weisser Mais Gries. Grob gemahlener Mais	Semolino di granoturco bianco	Majskrossgryn
HONEY	Miel	Honig	Miele	Honung
Honeycomb	Rayon de miel	Honigwabe	Favo	Honungskaka
HOPS	Houblons	Hopfen	Luppoli	Humle
HOREHOUND CANDY	Pastilles de marrube	Marrubium Pastillen	Confetti di marrobbio	Bröstkarameller (andorn)

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
HORSERADISH	Raifort	Meerrettig	Rafano. Ramolaccio	Pepparrot
HUCKLEBERRIES	Myrtils	Heidelbeeren. Blaubeeren	Mirtillo	Blåbär
ICE	Glace	Eis	Ghiaccio	Is
ICE (dessert)	Glace	Gefrorenes	Gelato. Sorbetto	Glace
ICE CREAM	Glace. Glace à la crème	Gefrorenes. Eis-creme	Crema ghiacciata Gelato	Glace
ICING	Glace. Glace royale Fondant (*cooked*)	Glasur aus Zucker. Zuckerguss	Crosta di zucchero	Glasering. Glasyr kandering
INDIAN MEAL. See *Cornmeal*				
JAM	Confiture	Marmelade. Eingemachtes	Conserva. Confettura	Sylt
JELLY	Gelée	Gelee	Gelatina	Gelé
JERUSALEM ARTICHOKE	Topinambour	Jerusalem-Artischocke	Elianto tuberoso	Jordärtskocka
JOINT (of meat)	Grosse pièce	Gross Stück. Grosses Fleischstück	Taglio	Stort Köttstycke
JUICE	Jus	Saft	Succo. Sugo	Saft
KALE	Chou vert frisé	Krauskohl. Blätterkohl	Cavolo riccio	Kruskål
KETCHUP. See *Catsup*				
KIDNEY	Rognon	Nieren	Rognone	Njure
KNUCKLE	Jarret	Knöchel	Nocca	Lägg
KOHLRABI	Chourave	Kohlrabi	Cavolo rapa	Kålrabbi
LAMB	Agneau	Lamm	Agnello	Lamkött
Spring lamb	Agneau de lait	Milchlamm	Agnello di latte	Dilamm
LARD	Saindoux	Schweineschmalz	Lardo. Salme. Grasso strutto	Ister. Svinfett
LEEKS	Poireaux	Lauch	Porri	Purjolök
LEG	Patte (*of small birds, etc.*) Cuisse (*of chicken, frogs, etc.*) Gigot (*of lamb, mutton, etc.*) Cuissot (*of veal, venison, etc.*) Trumeau (*of beef*)	Keule. Schlegel	Gambe (*of small birds, frogs, etc.*) Coscia (*of animals and larger birds*)	Ben (*of birds, frogs, etc.*) Lår. Larstycke (*of animals*)
LEMON	Citron. Limon	Citrone. Limone	Limone	Citron
Lemon peel	Écorce de citron	Citronenschale	Scorza di limone	Citronskal
Candied lemon peel	Citronnat	Citronat	Scorza di limone candita	Kanderad citronskal
Lemon extract	Alcoolat de citron	Citronen Extrakt	Essenza (or Estratto) di limone	Citronextrakt
Lemon juice	Jus de citron	Citronensaft	Sugo di limone. Agro di limone	Sur citronsaft
LEMONADE	Limonade	Limonade	Limonata	Limonad
LENTILS	Lentilles	Linsen	Lenticchie	Linser
LETTUCE	Laitue	Kopfsalat	Lattuga	Grönsalad
Cos lettuce. See *Romaine*				

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
LICORICE	Réglisse	Lakritze	Liquirizia	Lakrits
LIME (fruit)	Lime	Limette	Lima (piccolo limone)	Limon (en liten citron)
LIME JUICE	Jus de lime	Limonensaft	Cedrato. Agro di lima	Limonsaft
LIVER	Foie	Leber	Fegato	Lefver
LOBSTER	Homard	Hummer	Gambero marino. Astaco	Hummer
LOIN	Longe	Lenden-Stück	Lombo	Främre ländstycke. Oxhare
LOZENGES	Pastilles	Pastillen	Pastiglie	Pastilj
MACARONI	Macaroni	Makaroni	Maccheroni	Makaroni
MACAROONS	Macarons	Makronen	Amaretti	Makron (ett slags mandel-bakelse)
MACE	Macis	Muskatblüte	Macis	Muskotblomma
MACKEREL	Maquereau	Makrele	Sgombro	Makrill
Salt mackerel	Maquereau salé	Salz-Makrele	Sgombro salato	Salt makrill
MAIZE. See *Corn (Indian)*				
MALT	Malt	Malz	Orzo malto	Malt
MANGO	Mangue	Mangofrucht	Mango	Mango
MAPLE SUGAR	Sucre d'érable	Ahornzucker	Zucchero di acero	Lönnsocker
MAPLE SYRUP	Sirop d'érable	Ahornsirup	Sciroppo di acero	Lönnsirap
MARCHPANE	Massepain	Marzipan	Marzapane	Marsipan
MARJORAM (sweet)	Marjolaine	Meiran	Maggiorana (dolce)	Mejram
MARMALADE (orange)	Marmelade (d'oranges)	Marmelade (von Apfelsinen)	Marmellata. Conserva di aranci	Marmelad. Sylt af apelsiner
MARROW	Moëlle	Mark	Midollo	Märg
Marrow bone	Os à moëlle	Markknochen	Osso midolloso	Märgben
MEAT See also *Beef*, etc.	Viande	Fleisch	Carne	Kött
MEAT EXTRACT	Extrait de viande	Fleischextrakt	Essenza (*or* Estratto) di carne	Köttextrakt
MELON	Nèfle	Mispel	Nespola	Mispel
MEDLAR	Melon	Melone	Mellone	Melon
MILK	Lait	Milch	Latte	Mjölk
MILT. See *Roe (soft)*				
MINCE MEAT	Viande cuite hâchée avec pommes, raisins secs, cédrat confit, épices, eau de vie, etc.	Gehacktes gekochtes Fleisch, Äpfel, Rosinen, Citronat, Gewürze, Cognak, etc.	Carne cotta tritata, con mele, uva passa, cedro candito, spezie, acquavite, ecc.	Hackadt kött med äppeln, russin, kanderad citron, kryddor, konjak, etc.
MINERAL WATERS	Eaux minérales	Mineral-Wasser	Acque minerali	Mineral-vatten
MINT	Menthe	Minze	Menta	Mynta
MOCK TURTLE (soup)	Fausse tortue (Soupe à la)	Falsche Schildkröten-Suppe (von Kalbskopf zubereitet)	Zuppa fatta con testa di vitello (imitazione di tartaruga)	Falsk sköldpaddsoppa

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
MOLASSES	Mélasse	Melasse	Melassa	Sirap. Sockersirap
MULBERRIES	Mûres	Maulheeren	More	Mullbär
MUSHROOMS	Champignons	Pilze	Funghi	Champinjoner
Button mushrooms	Mousserons	Tafelpilze	Funghicini	Champinjonhufvud
MUSK MELON. See *Cantaloupe*				
MUSSELS	Moules	Muscheln	Datteri di mare	Musslor
MUSTARD	Moutarde	Senf. Mostrich	Senapa. Mostarda	Senap
MUTTON	Mouton	Hammelfleisch	Castrato	Fårkött
NECK	Cou	Hals	Collo	Hals. Halsstycke
NECTARINE	Brugnon	Nektarine	Pesca noce	Nektarin
NOODLES	Nouilles	Nudeln	Una forma di pasta alimentare simile alle fettuccelle	Nudlar
NUTMEG	Muscade	Muskatnuss	Noce moscata	Muskott
NUTS	Noix	Nüsse	Noci	Nötter
OATMEAL	Farine d'avoine	Hafergrütze	Farina di avena	Hafremjöl
OIL	Huile	Öl	Olio	Olja
Sweet oil	Huile de table	Speiseöl. Olivenöl	Olio da tavola	Matolja
OKRA	Gombaut	Ochra. Gombo	Ocra	Ochra
OLIVES	Olives	Oliven	Olive	Oliver
OLIVE OIL	Huile d'olive	Oliven Öl	Olio d'oliva	Olivolja
ONIONS	Oignons	Zwiebeln	Cipolle	Lök
ORANGES	Oranges	Apfelsinen. Orangen	Aranci	Apelsiner
OX TAIL	Queue de bœuf	Ochsenschwanz	Coda di bue	Oxsvans
OX TONGUE	Langue de bœuf	Ochsenzunge	Lingua di manzo	Oxtunga
OYSTERS	Huîtres	Austern	Ostriche	Ostron
OYSTER PLANT	Salsifis	Salsify	Barba di becco	Salsofi. Sockerrötter
PARSLEY	Persil	Petersilie	Prezzemolo	Persilja
PARSNIPS	Panais	Pastinake	Pastinache	Palsternacka
PARTRIDGE	Perdrix	Rehhuhn	Pernice	Rapphöns
PASTRY	Pâtisserie	Backwerk	Pasticcieria	Bakverk. Smörbakelse
PATTY	Pâté	Pastete	Pasticcetto	Pastej
PEAS	Pois	Erbsen	Piselli	Ärter
Green peas	Pois nouveaux. Petits pois	Grüne Erbsen	Piselli verdi	Gröna ärter
Split peas	Pois cassées	Getrocknete geschälte Erbsen	Piselli spaccati	Krossade ärter
PEACHES	Pêches (*freestone*) Pavies (*"clings"*)	Pfirsiche	Pesche	Persikor
PEANUTS Earthnuts, Goobers, etc.	Arachides	Erdnüsse	Pistacchi di terra	Jordnötter
PEARS	Poires	Birnen	Pere	Päron

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
PEPPER	Poivre	Pfeffer	Pepe	Peppar
Black pepper	Poivre noir	Schwarzer Pfeffer	Pepe nero	Starkpeppar
White pepper	Poivre blanc	Weisser Pfeffer	Pepe bianco	Hvitpeppar
Red pepper	Poivre rouge	Roter Pfeffer	Pepe rosso	Rödpeppar
Cayenne pepper	Poivre de Guinée	Spanischer Pfeffer	Pepe di Caienna	Cayenne peppar
Peppercorns	Grains de poivre	Pfefferkörner	Grani di pepe	Pepparkorn
PEPPERS (*fresh*)	Piments	Frische Pfefferschoten	Peperoni comuni	Färsk peppar
PEPPERMINT	Menthe poivrée	Pfefferminze	Menta pepata	Pepparmynta
PHEASANT	Faisan	Fasan	Fagiano	Fasan
PICKLES	Concombres, ou légumes, etc., confits au vinaigre	Eingemachte Gurken, Gemüse, etc.	Cetriuoli, legumi, ecc., in aceto	Pickles. Inlagda gurkor eller grönsaker, etc.
PIE	Pâté (*covered and chiefly of meat*) Tourte (*open and preferably of meat*) Tarte (*open and chiefly of jam, fruit, etc.*)	Pastete	Pasticcio. Torta. Crostata	Pastej (*meat or sweet*) Tårta (*sweet*)
PIG	Cochon	Schwein	Porco. Majale	Gris. Svin
Sucking pig	Cochon de lait	Spanferkel. Milchschwein	Porcellino lattante	Digris
Pig's tongue	Langue de porc	Schweinszunge	Lingua di porco	Gristunga
PIGEON	Pigeon	Taube	Piccione	Dufva
Young pigeon. See *Squab*				
PINEAPPLE	Ananas	Ananas	Ananasso	Ananas
PISTACHIO NUTS	Pistaches	Pistaziennüsse	Noci di pistacchio	Pistacier
PLUMS	Prunes	Pflaumen	Prugne	Plommon
"PLUM" CAKE	Gâteau de fruits	Rosinenkuchen	Focaccia con uva passa. Focaccia inglese	Russinkaka
PLUM PUDDING	Plumpudding	Plumpudding	Budino inglese	Plumpudding
POMEGRANATE	Grenade	Granatapfel	Melagrana	Granatäpple
PORK	Porc	Schweinefleisch	Porco	Fläsk
Fresh pork	Porc frais	Frisches Schweinefleisch	Porco fresco	Färskt fläsk
Corned (or Salt) pork	Porc salé	Pökelfleisch	Porco salato. Lardone	Saltadt fläsk
PORT (wine)	Vin d'Oporto	Portwein	Vino di Oporto	Portvin
POTATOES	Pommes de terre	Kartoffeln	Patate	Potatis
POULTRY	Volaille	Geflügel	Pollame	Fjäderfä. Hönsfoglar
PRAWNS	Crevettes	Garneelen	Granchiolini. Gamberetti di mare	Räkor
PRESERVES	Confiture (*as "jam"*) Conserves (*less sweet or dryer*)	Eingemachtes	Conserve	Konserver
PRUNES	Pruneaux	Backpflaume	Prugne secche	Sviskon
PULLET	Poulette	Junges Huhn	Pollastrina	Unghöns

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
PUMPKIN	Citrouille	Kürbis	Zuccà (melopopone)	Pumpa
PUNCH	Ponche	Punsch	Ponce	Punsch
QUAIL	Caille	Wachtel	Quaglia	Vaktel
QUINCE	Coing	Quitte	Mela cotogna	Kvitten
RABBIT	Lapin	Kaninchen	Coniglio	Kanin
RADISHES	Radis	Rettige	Ravanelli	Rädisor
RAISINS	Raisins secs	Rosinen	Uva passa	Russin
RASHER of bacon	Tranche de lard	Speckscheiben	Fetta sottile di lardo	Rökt fläskskifva
RASPBERRIES	Framboises	Himbeeren	Lamponi	Hallon
Raspberry vinegar	Vinaigre framboisé	Himbeer-Saft	Aceto di lampone	Hallonättika
RENNET	Caillette	Käselab	Caglio	Renett
RHINE WINE	Vin du Rhin	Rheinwein	Vino del Reno	Renskt vin
RHUBARB	Rhubarbe	Rhabarber	Rabarbaro	Rabarber
RIB	Côte	Rippe	Costola	Refben
RICE	Riz	Reis	Riso	Ris
Rice flour	Farine de riz	Reismehl	Farina di riso	Rismjöl
ROAST	Rôt	Braten	Arrosto	Stek
ROE (hard)	Frai	Rogen	Uova di pesce	Rom
" (soft). Milt	Laitance	Milcher	Latte di pesce	Mjölke
ROLLS (bread)	Petits pains	Brötchen	Panini	Franska bröd. Smörbröd
ROMAINE (lettuce)	Romaine	Römischer Salat	Lattuga romana	Ett slags grönsallat
ROUND (of beef)	Rouelle	Keule (rind)	Rotella	Innanlår
RUM	Rhum	Rum (aus Zuckerrohr)	Rhum	Rom
RUMP	Culotte	Rumpfstück. Schwanzstück	Culatta	Svansstek. Bakre ländstycke
RYE	Seigle	Roggen	Segala	Råg
SADDLE (of meat)	Selle	Rücken. Rückenstück	Schiena	Sadel
SAGE	Sauge	Salbei	Salvia	Salvia
SAGO	Sagou	Sago	Sago	Sago
ST. JOHN'S BREAD.	See *Carob Bean*			
SALAD	Salade	Salat	Insalata	Salad
SALMON	Saumon	Lachs	Salmone	Lax
SALT	Sel	Salz	Sale	Salt
SAMP.	Maïs blanc	Weisser Mais	Granoturco bianco	Majs
See also *Hominy*				
SANDWICH	Sandwich	Belegtes, zusammengeklapptes Brötchen	Due fettine di pane con della carne	Dubbelsmörgås. Smörgås
SARDINES	Sardines	Sardinen	Sardine	Sardiner
SARSAPARILLA	Salsepareille	Sarsaparille	Salsapariglia	Sassaparill
SASSAFRAS	Sassafras	Sassafras	Sassafrasso	Sassafrasbark
SAUCE	Sauce	Tunke. Sauce	Salsa	Sås

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
SAUSAGE	Saucisse	Wurst	Salsiccia	Korf
SAVOY CABBAGE	Chou de Savoie	Savoyerkohl	Cavolo cappuccio	Savojkål
SCALLOPS	Pétoncles	Kammuschel	Pettonchi	Kammussla
SEASONING	Assaisonnement	Würze	Condimento	Kryddning
SEMOLINA.	See *Farina* (2)			
SHAD	Alose	Maifisch. Alse	Cheppia	Staksill
SHADDOCK.	See *Grape Fruit*			
SHALLOT	Échalote	Schalotte	Scalogno	Schalottenlök
SHELLFISH	Crustacés (*lobsters, etc.*) Mollusques (*oysters, etc.*)	Schaltiere	Pesce con guscio. Pesce di scorza	Skaldjur
SHERRY	Vin de Xérès	Xereswein	Vino di Xeres	Sherry
SHOULDER	Épaule	Schulter	Spalla	Bog
SHRIMPS	Crevettes salicoque	Garneelen	Gamberettini. Granchiolini	Räkor
SKIN	Peau	Haut	Pelle	Skinn
SLICE	Tranche (*of meat*) Darne (*of large fish*) Escalope (*thin slice*)	Schnitte. Scheibe	Fetta	Skifva
SNAILS	Escargots	Schnecken	Lumache	Sniglar
SNIPE	Bécassine	Schnepfe	Beccaccino	Beckasin
SODA	Soude. Carbonate de soude	Soda. Kohlensaures Natron	Soda. Carbonato di soda	Soda. Kolsyradt natron
SODA WATER.	See *Carbonated Water*			
SOLE (fish)	Sole	Seezunge. Scholle	Sogliuola	Hafstunga. Sjötunga
SORREL	Oseille	Sauerampfer	Acetosa	Syra
SOUP	Potage	Suppe	Zuppa	Soppa
SOURKRAUT	Choucroute	Sauerkraut	Sourcrout. Crauti. Cavoli salati	Surkål
SPARE RIBS	Plates-côtes (de porc)	Solperrippchen	Costole di porco	Refbensspjäll
SPICE	Épice	Gewürz	Spezie	Krydda
SPINACH	Épinards	Spinat	Spinacci	Spenat
SPRATS	Sprats	Sprotten	Laterini	Skarpsill
SQUAB	Pigeonneau	Junge Taube	Piccioncello. Piccione novello	Ung dufva
SQUASH	Courge	Melonenkürbis	Zucca	Många olika sorter af Kurbits-slägtet
STEAK	Bifteck	Beefsteak	Bifstek. Braciuola. Bistecca	Biffstek. Stek. Köttskifva
STOMACH	Estomac	Magen	Stomaco	Mage
STRAWBERRIES Strawberry shortcake	Fraises Gâteau aux fraises	Erdbeeren Erdbeerkuchen	Fragole Focaccia di fragole	Jordgubbar Jordgubbstårta

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
STUFFING	Farce	Füllung. Füllsel	Ripieno	Fyllning
STURGEON	Esturgeon	Stör	Storione	Stör
SUET	(*Beef*) Graisse de rognon de bœuf (*Mutton*) Suif. Graisse de mouton	Rindsnierenfett (*beef*) Talg (*mutton*)	Sugna	Njurfett
SUGAR	Sucre	Zucker	Zucchero	Socker
Brown sugar	Sucre brut	Brauner Zucker	Zucchero di muscavado	Brunt farinsocker
Granulated sugar	Sucre granulé	Körniger Zucker	Zucchero in grano	Strösocker
Lump sugar	Sucre en pain	Stücken-Zucker	Zucchero in pani	Bitsocker
Powdered sugar	Sucre en poudre	Puder-Zucker	Zucchero polverizzato	Pudersocker
SWEETBREAD	Ris	Bröschen	Animella	Bräss
Calf's sweetbread	Ris de veau	Kalbsbröschen	Animella di vitello	Kalfbräss
SWEET POTATOES	Patates	Bataten. Süsse Kartoffeln	Batate. Patate dolci	Söt potatis
SYRUP	Sirop	Sirup	Sciroppo	Sirap
TAMARINDS	Tamarins	Tamarinden	Tamarindi	Tamarinder
TAPIOCA	Tapioca	Tapioka	Tapioca	Tapioca. Kassavagryn
TARRAGON	Estragon	Dragon	Targone. Artemisia	Kejsarsallat. "Estragon." Dragonört
TART See also *Pie*	Tartelette	Torte	Torta	Tårta. Pastej
TEA	Thé	Thee	Te	Te
TENDERLOIN	Filet	Lendenstück	Filetto	Filet
TERRAPIN	Terapène	Eine kleine Amerikanische Schildkröte. Dosenschildkröte	Tartaruga palustris indigena degli Stati Uniti d'America	En landsköldpadda förekammande i sumptrakter i U. S.
THYME	Thym	Thymian	Timo	Timjan
Wild thyme	Serpolet	Wilder Thymian	Sermollino	Backtimjan
TOAST	Pain rôti	Geröstetes Brot	Pane abbrustolato	Rostadt bröd
TOMATO	Tomate	Tomate. Paradiesapfel	Tomata. Pomo d'oro	Tomat
TONGUE	Langue	Zunge	Lingua	Tunga
TORTOISE (land)	Tortue de terre	Land-Schildkröte	Tartaruga di terra	Landsköldpadda
" (fresh-water)	" d'eau douce	Fluss-Schildkröte	" di fiume	Färsk-vattens sköldpadda
TRIPE	Tripe	Kaldaunen	Trippa	Maghinna. Ränta
TROTTERS. See *Feet*				
TROUT	Truite	Forelle	Trota	Forell
TRUFFLES	Truffes	Trüffeln	Tartufi	Tryffel
TUNNY FISH	Thon	Thunfisch	Tonno	Tonfisk
TURBOT	Turbot	Steinbutt	Rombo	Pigghvar
TURKEY	Dinde	Puter. Truthahn	Tacchino	Kalkon
Young turkey	Dindonneau	Junger Puter	Tacchino giovane	Kalkonkyckling

ENGLISH	*FRENCH*	*GERMAN*	*ITALIAN*	*SWEDISH*
TURNIPS	Navets (*long kind*) Raves (*round and flat kinds*)	Rüben. Steckrüben	Rape	Rofva Kålrötter
TURTLE	Tortue (de mer)	Suppen-Schildkröte	Tartaruga (di mare)	Hafs sköldpadda
VANILLA	Vanille	Vanille	Vainiglia	Vanilj
Vanilla bean	Gousse de vanille	Vanillenschote	Fagiuolo di vainiglia	Vaniljeböna
VEAL	Veau	Kalbfleisch	Vitello	Kalfkött
VEGETABLES	Légumes	Gemüse	Vegetali. Verdura (*green vegetables*)	Köksväxter Grönsaker (*green vegetables*)
VERMICELLI	Vermicelle	Fadennudeln	Vermicelli	Vermiceller
VENISON	Venaison	Wildbret	Selvaggiume	Rådjurskött
VINEGAR	Vinaigre	Essig	Aceto	Ättika
Wine vinegar	Vinaigre de vin	Weinessig	Aceto di vino	Vinättika
Cider vinegar	Vinaigre de cidre	Äpfelweinessig	Aceto di sidro	Ciderättika
Malt vinegar	Vinaigre de malt	Malzessig	Aceto d'orzo	Maltättika
WAFFLES	Gaufres	Waffeln	Cialde	Våfflor
WALNUTS	Noix	Wallnüsse	Noci	Valnötter
WATER	Eau	Wasser	Acqua	Vatten
WATERCRESS	Cresson de fontaine	Brunnenkresse	Crescione di riviera	Vattenkrasse
WATERMELON	Melon d' eau	Wassermelone	Cocomero	Vattenmelon
WHEAT	Blé	Weizen	Frumento	Hvete
WHISKY	Whisky	Whisky. Kornbranntwein	Acquavite di orzo (o di segala, ecc.)	Whisky
WHITEBAIT	Blanchaille	Weissfischen. Breitling	Bianchetti	Småsill. Strömming
WHITES (of eggs)	Blancs d'œuf	Eiweiss	Bianco d'uovo. Albume	Ägghvitor
WHORTLEBERRIES	See *Huckleberries*			
WINE	Vin	Wein	Vino	Vin
Red wine	Vin rouge	Rotwein	Vino rosso	Rödvin
Sparkling wine	Vin mousseux	Schaumwein	Vino spumante	Musserande vin
Sweet wine	Vin sucré	Süsser Wein	Vino dolce	Sött vin
White wine	Vin blanc	Weisswein	Vino bianco	Hvitt vin
WING	Aile	Flügel	Ala	Vinge
YEAST	Levure	Hefe	Lievito	Jäst
YOLKS	Jaunes d'œuf	Eigelb	Rosso d'uovo. Tuorlo	Äggulor

DICTIONNAIRE FRANÇAIS-ANGLAIS.

A

Abatis. Giblets.
Abricots. Apricots.
Agneau. Lamb.
Agneau de lait. Spring lamb.
Ail. Garlic.
Aile. 1—Ale (*bière anglaise*). 2—Wing (*membre des oiseaux*).
Airelles rouges. Cranberries.
Alcool. Alcohol.
Ale. Ale.
Alose. Shad.
Amandes. Almonds.
Amandes amères. Bitter almonds.
Amandes cassées. Shelled almonds.
Amandes douces. Sweet almonds.
Amandes pralinées. Burned almonds (in sugar).
Pâte d'amande. Almond paste.
Amers. Bitters.
Ananas. Pineapple.
Anchois. Anchovies.
Beurre d'anchois. Anchovy butter.
Pâte d'anchois. Anchovy paste.
Sauce d'anchois. Anchovy sauce.
Anguille. Eel.
Anis. Anise.
Arachides. Peanuts.
Aromates. Aromatic herbs.
Arrow-root. Arrowroot.
Artichauts. Artichokes.
Fonds (ou *culs*) *d'artichauts.* Artichoke bottoms.
Asperges. Asparagus.
Asperges blanches. White asparagus.
Asperges vertes. Green asparagus.
Pointes d'asperges. Asparagus tips.
Assaissonnement. Seasoning.
Aubergine. Egg plant.
Avélines. Filberts. Hazel-nuts.
Avocat (Poire d'). Alligator pear.
Avoine, Farine d'. Oatmeal.

B

Baies. Berries.
Baies de ronce. Blackberries.
Bananes. Bananas.
Bécassine. Snipe.
Betteraves. Beetroots.
Beurre. Butter.
Beurre de cuisine. Cooking butter.
Beurre salé. Salt butter.
Bière. Beer.
Bifteck. Steak.
Biscuits. Biscuits.
Biscuit de mer. Hard tack.
Blanchaille. Whitebait.
Blé. Wheat.
Bœuf. Beef.
Bœuf boucané. Dried beef.
Bœuf épicé. Spiced beef.
Bœuf rôti. Roast beef.
Bœuf salé. Corned beef.
Bonbons. Candy. Sweets.
Boudin. Blood pudding.
Bouillon. Broth.
Brisquet. Brisket.
Brocoli. Broccoli.
Brugnon. Nectarine.

C

Cabillaud. Codfish.
Cacao. Cocoa.
Café. Coffee.
Café en grains. Whole coffee.
Café grillé. Roasted coffee.
Café moulu. Café en poudre. Ground coffee.
Caille. Quail.
Caillé. Curd.
Caillette. Rennet.
Canard. Duck.
Canard sauvage. Wild duck.
Candi. Candy.
Cannelle. Cinnamon.
Cantaloup. Musk melon. Cantaloupe.
Câpres. Capers.
Cardamome. Cardamom.
Carottes. Carrots.
Caroube. Carob-bean.
Carré. Rack.
Casse aromatique. Cassia.
Caviar. Caviar.
Cédrat confit. Candied citron.
Céleri. Celery.
Cerises. Cherries.
Cerises glacées. Candied cherries.
Cervelle. Brains.
Champagne. Champagne.
Champignons. Mushrooms.
Chapon. Capon.
Chicorée. Chicory.
Chocolat. Chocolate.
Chou. Cabbage.
Chou rouge. Red cabbage.
Salade de chou. Cold slaw.
Chou de savoie. Savoy cabbage.
Chou vert frisé. Kale.
Choux de Bruxelles. Brussels sprouts.
Choucroute. Sourkraut.
Choufleur. Cauliflower.
Chourave. Kohlrabi.
Cidre. Cider.
Cimier. Haunch (*de venaison*).
Citron. Lemon.
Alcoolat de citron. Lemon extract.
Écorce de citron. Lemon peel.
Jus de citron. Lemon juice.
Citronnat. Candied lemon peel.
Citrouille. Pumpkin.
Cochon. Pig.
Cochon de lait. Sucking pig.
Coco (noix de). Cocoanut.
Coeur. Heart.
Coing. Quince.
Concombre. Cucumber.
Concombres confits. Pickled cucumbers.
Confiserie. Confectionery.
Confiture. Jam.
Congre. Sea eel.
Conserves. Preserves.
Coriandre. Coriander.

Dictionnaire Français-Anglais—*Continued.*

Cornichons. Gherkins.
Côte. Rib.
Côtelette. Cutlet. Chop.
Cou. Neck.
Courge. Squash.
Crabe. Crab.
Crabe mou. Soft shell crab.
Crabe d'huître. Oyster crab.
Crème. Cream.
Crème de tartre. Cream of tartar.
Cresson. Cress.
Cresson de fontaine. Watercress.
Crêtes de coq. Cockscombs.
Crevettes. Prawns.
Crevettes salicoque. Shrimps.
Crustacés. Shellfish.
Cuisse. Cuissot. Leg.
Culotte. Rump. Hip.
Cumin des prés. Caraway seed.
Curry. Curry.

D

Damas. Damson (plum).
Darne. Slice.
Dattes. Dates.
Dent-de-lion. Dandelion.
Dessert. Dessert.
Dinde. Turkey.
Dindonneau. Young turkey.

E

Eau. Water.
Eaux carbonatées. Carbonated waters.
Eaux minérales. Mineral waters.
Eau de vie. Brandy.
Échalote. Shallot.
Écrevisses. Crayfish.
Égrefin. Haddock.
Égrefin fumé. Smoked haddock. "Finnan Haddie."
Endive. Endive.
Épaule. Shoulder.
Épice. Spice.
Pain d'épice. Gingerbread.
Épinards. Spinach.
Érable, Sirop d'. Maple syrup.
Érable, Sucre d'. Maple sugar.
Escalope. Thin slice.
Escargots. Snails.
Estomac. Stomach.
Estragon. Tarragon.
Esturgeon. Sturgeon.
Extrait. Extract.

F

Faines. Beechnuts.
Faisan. Pheasant.
Farce. Stuffing.
Farine (de froment). Flour.
Farine de seigle. Rye flour.
Fèves. Beans.
Figues. Figs.
Filet. Tenderloin.
Flageolets. Young green beans.
Foie. Liver.
Foie gras. Goose liver.
Fondant. Icing (cooked).
Frai. Roe (hard).
Fraises. Strawberries.
Gâteau aux fraises. Strawberry shortcake.
Framboises. Raspberries.
Vinaigre framboisé. Raspberry vinegar.
Fromage. Cheese.
Fromage à la crème. Cream cheese.
Fromage rapé. Grated cheese.
Fruit. Fruit.
Fruits glacés. Candied fruit.
Fruits secs. Dried fruit.

G

Garniture. Garnishing.
Gâteau. Cake.
Gâteau de fruits. "Plum" cake.
Gaufres. Waffles.
Gélatine. Gelatine.
Gelée. Jelly.
Genièvre. Gin.
Gésier. Gizzard.
Gibier. Game.
Gigot. Leg.
Gingembre. Ginger.
Boisson au gingembre. Ginger ale.
Girofles. Cloves.
Glace. Ice (*et l'eau congelé et glace aux fruits, etc.*). Ice cream (*glace à la crème*).
Glace à la crème. Ice cream.
Glace. Glace royale. Icing. Frosting.
Gombaut. Okra.
Goyave. Guava.
Graisse. Fat.
Graisse de rognon de bœuf. Beef suet.
Graisse de mouton. Mutton suet.
Grenade. Pomegranate.
Grenouilles, Cuisses de. Frogs' legs.
Groseilles. Currants (fresh).
Gelée de groseilles. Currant jelly.
Groseilles à maquereau. Gooseberries.
Grosse pièce. Joint.
Gruau. Groats.

H

Hareng. Herring.
Harengs bouffis. Bloaters.
Harengs marinés. Harengs salés. Pickled herrings.
Harengs saurs. Kippered herrings. Smoked herrings.
Haricots. Kidney beans.
Haricots blancs secs. Navy beans.
Haricots à cosse jaune. Wax beans.
Haricots de Lima. Lima beans.
Haricots verts. String beans.
Herbes. Herbs.
Fines herbes. Herbes aromatiques. Fine herbs. Sweet herbs.
Homard. Lobster.
Houblons. Hops.
Huile. Oil.
Huile de table. Sweet oil.
Huîtres. Oysters.

J

Jambon. Ham.
Jarret. Knuckle.
Jus. Juice. Gravy (*de la viande*).

K

Karri. Curry.

L

Lait. Milk.
Lait concentré. Condensed milk.
Lait de beurre. Buttermilk.
Laitance. Roe (soft).
Laitue. Lettuce.
Langue. Tongue.
Langue de bœuf. Ox tongue.
Langue de porc. Pig's tongue.
Lapin. Rabbit.
Lard. Bacon.
Laurier, Feuilles de. Bay leaves.
Légumes. Vegetables.
Légumes verts. "Greens."
Lentilles. Lentils.
Levure. Yeast.
Levure en poudre. Baking powder.
Lièvre. Hare.

Dictionnaire Français-Anglais—*Continued.*

Lime. Lime.
Jus de lime. Lime juice.
Limon. Lemon.
Limonade. Lemonade.
Longe. Loin.
Lucines. Clams.
Lucines orangées. Hard clams.
Lucines papillons. Soft clams.

M

Macarons. Macaroons.
Macaroni. Macaroni.
Mâche. Corn salad (plant).
Macis. Mace.
Maïs. Corn (Indian).
Farine de maïs. Cornmeal.
Fécule de maïs. Cornstarch.
Semoule de mais blanc. Hominy.
Malt. Malt.
Mangue. Mango.
Maquereau. Mackerel.
Maquereau salé. Salt mackerel.
Marinade. Vinegar pickle (*de vinaigre*). Brine (*de sel*).
Marjolaine. Marjoram, (sweet).
Marmelade. Marmalade (*ordinairement, d'oranges*).
Marrons. Chestnuts.
Marrons glacés. Candied chestnuts.
Marrube, Pastilles de. Horehound candy.
Massepain. Marchpane.
Mélasse. Molasses.
Melon. Melon.
Melon d'eau. Watermelon.
Menthe. Mint.
Menthe poivrée. Peppermint.
Miche. Loaf.
Miel. Honey.
Rayon de miel. Honeycomb.
Moëlle. Marrow.
Os à moëlle. Marrow bone.
Morue. Codfish.
Morue salée. Salt cod.
Morue sèche. Dried cod.
Langues de morue. Cod tongues.
Morue, Huile de foie de. Cod liver oil.
Moules. Mussels.
Mousserons. Button mushrooms.
Moût. Grape juice.
Moutarde. Mustard.
Mouton. Mutton.
Mûres. Mulberries.
Muscade. Nutmeg.
Myrtils. Huckleberries.

N

Navets. Turnips.
Nèfle. Medlar.
Noix. 1. Walnuts (*fruit du noyer*). 2. Nuts (*des noix de toute espèce*).
Noix de Brésil. Brazil nuts.
Noues. Cod sounds.
Nouilles. Noodles.

O

Œufs. Eggs.
Blancs d'œuf. Egg whites.
Jaunes d'œuf. Yolks.
Oie. Goose.
Oison. Gosling.
Oignons. Onions.
Olives. Olives.
Huile d'olive. Olive oil.
Oranges. Oranges.
Orge. Barley.
Os. Bone.
Oseille. Sorrel.

P

Pain. Bread.
Pain bis. Brown bread.
Pain blanc. White bread.
Pain de ménage. Home made bread.
Pain de seigle. Rye bread.
Pain tendre. New bread.
Pain rôti. Toast.
Petits pains. Rolls.
Pamplemousse. Grape fruit.
Panais. Parsnips.
Pastilles. Lozenges.
Patates. Sweet potatoes.
Pâté. Pie. Patty (*petit*).
Pâtisserie. Pastry.
Patte. (1) Leg. (2) Claw (*des crustacés*).
Pavies. Peaches ("clings").
Peau. Skin.
Pêches. Peaches ("freestones").
Perdrix. Partridge.
Persil. Parsley.
Pétoncles. Scallops.
Pieds. Feet.
Pigeon. Pigeon.
Pigeonneau. Squab.
Piment de la Jamaïque. Allspice.
Piments. Peppers.
Pinces. Claws.
Pintade. Guinea fowl.
Pistaches. Pistachio nuts.
Plumpudding. Plum pudding.
Poires. Pears.
Poireaux. Leeks.
Pois. Peas.
Pois cassées. Split peas.
Pois nouveaux. Petits pois. Green peas.
Poisson. Fish.
Poisson d'eau douce. Fresh water fish.
Poisson de mer. Salt water fish.
Poitrine. Breast.
Poivre. Pepper.
Poivre blanc. White pepper.
Poivre de Guinée. Cayenne pepper.
Poivre noir. Black pepper.
Poivre rouge. Red pepper.
Grains de poivre. Peppercorns.
Poivrons de Guinée. Chilies.
Pommes. Apples.
Pommes à couteau. Eating apples.
Pommes à cuire. Cooking apples.
Pommes sauvages. Crab apples.
Pommes tapées. Dried apples.
Pommes de terre. Potatoes.
Ponche. Punch.
Poncire. Citron.
Porc. Pork.
Porc frais. Fresh pork.
Porc salé. Corned (*ou* Salt) pork.
Plates-côtes (de porc). Spare ribs.
Fromage de porc. Head cheese.
Potage. Soup.
Poule. Hen.
Poulet. Chicken.
Poulet de grain. Spring chicken.
Poulet à rôtir. Roasting chicken.
Poulet à sauter. Frying chicken.
Poulette. Pullet.
Prunes. Plums.
Prunes de reine claude. Greengages.
Pruneaux. Prunes.

Q

Quartier de derrière. Hindquarter.
Quartier de devant. Forequarter.
Queue. Tail.
Queue de bœuf. Ox tail.

Dictionnaire Français-Anglais—*Continued.*

R

Radis. Radishes.
Raifort. Horseradish.
Raisins. Grapes.
Raisins secs. Raisins.
Raisins de Corinthe. Currants (drled).
Raves. Turnips.
Réglisse. Licorice.
Rhubarbe. Rhubarb.
Rhum. Rum.
Ris. Sweetbread.
Ris de veau. Calf's sweetbread.
Riz. Rice.
Farine de riz. Rice flour.
Rognon. Kidney.
Romaine. Romaine (lettuce).
Rosbif. Roast beef.
Rôt. Roast.
Rouelle. Round.

S

Sagou. Sago.
Saindoux. Lard.
Salade. Salad.
Salsepareille. Sarsaparilla.
Salsifis. Oyster plant.
Sandwich. Sandwich.
Sang. Blood.
Sarazin. Buckwheat.
Sardines. Sardines.
Sassafras. Sassafras.
Sauce. Sauce.
Saucisse. Sausage.
Sauge. Sage.
Saumon. Salmon.
Seigle. Rye.
Sel. Salt.
Selle. Saddle.
Semoule. Farina.
Serpolet. Wild thyme.
Sirop. Syrup.
Sole. Sole.
Soude. Carbonate de soude. Soda. Carbonate of soda.
Sprats. Sprats.
Sucre. Sugar.
Sucre brut. Brown sugar.
Sucre granulé. Granulated sugar.
Sucre en pain. Lump sugar.
Sucre en poudre. Powdered sugar.
Sucreries. Candy. Sweets.
Suif. Suet (mutton).

T

Talmouse. Cheese cake.
Tamarins. Tamarinds.
Tapioca. Tapioca.
Tarte. Pie.
Tartelette. Tart.
Terapène. Terrapin.
Tête. Head.
Tétras. Grouse.
Thé. Tea.
Thon. Tunny fish.
Thym. Thyme.
Tomate. Tomato.
Topinambour. Jerusalem artichoke.
Tortue. Turtle (*tortue de mer*). Tortoise (*tortue de terre ou d'eau douce*).
Tourte. Pie.
Tranche. Slice (*de bœuf, etc.*). Rasher (*de lard*).
Tripe. Tripe.
Truffes. Truffles.
Truite. Trout.
Trumeau. Leg.
Turbot. Turbot.

V

Vanille. Vanilla.
Gousse de vanille. Vanilla bean.
Veau. Veal.
Cervelle de veau. Calf's brains.
Foie de veau. Calf's liver.
Tête de veau. Calf's head.
Venaison. Venison.
Vermicelle. Vermicelli.
Viande. Meat.
Extrait de viande. Meat Extract.
Vin. Wine.
Vin blanc. White wine.
Vin mousscux. Sparkling wiue.
Vin rouge. Red wiue.
Vin sucré. Sweet wine.
Vin de Bordeaux. Claret.
Vin de Bourgogne. Burgundy.
Vin d'Oporto. Port.
Vin du Rhin. Rhine wine.
Vin de Xérès. Sherry.
Vinaigre. Vinegar.
Vinaigre de cidre. Cider vinegar.
Vinaigre de malt. Malt vinegar.
Vinaigre de vin. Wine vinegar.
Volaille. Poultry.

W

Whisky. Whisky.

WÖRTERBUCH DER DEUTSCHEN-ENGLISCHEN SPRACHE.

A

Aal. Eel.
Ahornsirup. Maple syrup.
Ahornzucker. Maple sugar.
Alcohol. Alcohol.
Ale. Ale.
Alse. Shad.
Ananas. Pineapple.
Andorn. Horehound candy.
Anis. Anise.
Anschoven. Anchovies.
Anschovenbutter. Anchovy butter.
Anschovenpaste. Anchovy paste.
Anschovensauce. Anchovy sauce.
Apfel. Apples.
Getrocknete Apfel. Dried apples.
Kochäpfel. Cooking apples.
Tafeläpfel. Eating apples.
Apfelsinen. Oranges.
Apfelwein. Cider.
Aprikosen. Apricots.
Artischocken. Artichokes.
Artischockenböden. Artichoke bottoms.
Austern. Oysters.
Austernkrabbe. Oyster crab.
Avocado-Birne. Alligator pear.

B

Backpflaume. Prunes.
Backpulver. Baking powder.
Backwerk. Pastry.
Bananen. Bananas.
Bataten. Sweet potatoes.
Beefsteak. Steak.
Beeren. Berries.
Belegtes, zusammen geklapptes Brötchen. Sandwich.
Bier. Beer.
Englisches Bier. Ale.
Birnen. Pears.
Biskuit. Biscuits.
Blätterkohl. Kale.
Blaubeeren. Huckleberries. Blueberries.
Blumenkohl. Cauliflower.
Blut. Blood.
Blutwurst. Blood pudding.
Bohnen. Beans.
Getrocknete Bohnen. Navy beans.
Grüne Bohnen. String beans.
Grüne Bohnen Kerne. Young green beans.
Lima-Bohnen. Lima beans.
Wachs Bohnen. Wax beans.
Welsche Bohnen. Kidney beans.
Bonbons. Candy.
Branntwein. Brandy.
Braten. Roast.
Breitling. Whitebait.
Brokoli. Broccoli.
Brombeeren. Blackberries.
Bröschen. Sweetbread.
Kalbsbröschen. Calf's sweetbread.
Brot. Bread.
Frisches Brot. New bread.
Hausbrot. Selbstgebackenes Brot. Home made bread.
Roggenbrot. Rye bread.
Schwarzbrot. Brown bread.
Weissbrot. White bread.
Geröstetes Brot. Toast.
Brötchen. Rolls.
Brunnenkresse. Watercress.
Brust. Bruststück. Breast (*von Geflügel, Lamm, etc.*). Brisket (*vom Ochsen*).
Buchecker. Beechnuts.
Buchweizen. Buckwheat.
Burgunder Wein. Burgundy (wine).
Butter. Butter.
Gesalzene Butter. Salt butter.
Kochbutter. Cooking butter.
Buttermilch. Buttermilk.

C

Cayennepfeffer. Chilies.
Cedrat. Citron.
Champagner. Champagne.
Chicorie. Chicory.
Citrone. 1—Lemon (*Limone*). 2—Citron (*Cedrat*).
Citronensaft. Lemon juice.
Citronenschale. Lemon peel.
Citronen Extrakt. Lemon extract.
Citronat. Candied lemon peel. Candied citron (*Cedrat*).
Cognak. Brandy.
Curry. Curry.

D

Damascener Pflaume. Damson.
Datteln. Dates.
Dessert. Dessert.
Dillgurken. Dill pickles.
Dosenschildkröte. Terrapin.
Dragon. Tarragon.

E

Eier. Eggs.
Eigelb. Yolks.
Eiweiss. Egg whites.
Eierpflanze. Egg plant.
Eingemachtes. Jam. Preserves.
Eiscreme. Ice cream.
Endivien. Endive.
Ente. Duck.
Wildente. Wild duck.
Erbsen. Peas.
Getrocknete geschälte Erbsen. Split peas.
Grüne Erbsen. Green peas.
Erdbeeren. Strawberries.
Erdbeerkuchen. Strawberry shortcake.
Erdnüsse. Peanuts.
Essig. Vinegar.
Äpfelweinessig. Cider vinegar.
Malzessig. Malt vinegar.
Weinessig. Wine vinegar.
Extrakt. Extract.

F

Fadennudeln. Vermicelli.
Fasan. Pheasant.
Feigen. Figs.
Feldsalad. Corn salad.
Fett. Fat.
Fisch. Fish.
Meerfisch. Salt-water fish.
Süsswasserfisch. Fresh-water fish.
Fleisch. Meat.
Fleischbrühe. Broth.

Wörterbuch der Deutschen-Englischen Sprache—*Continued.*

Fleischextrakt. Meat extract.
Rindfleisch-Extrakt. Beef extract.
Flügel. Wing.
Flusskrebse. Crayfish.
Forelle. Trout.
Froschschenkel. Frogs' legs.
Frucht. Fruit.
Getrocknete Frucht. Dried fruit.
Kandirte Frucht. Candied fruit.
Füllsel. Füllung. Stuffing.
Füsse. Feet. "Trotters."

G

Gans. Goose.
Junge Gans. Gosling.
Gänseleber. Goose liver.
Garneelen. Shrimps. Prawns.
Garnierung. Garnishing.
Geflügel. Poultry.
Gefrorenes. Ice (*Himbeer-Eis, etc.*) Ice cream (*Eiscreme*).
Gehirn. Brains.
Gelatine. Gelatine.
Gelee. Jelly.
Gemüse. Vegetables.
Grünes Gemüse. Green vegetables. "Greens."
Gerste. Barley.
Gewürz. Spice.
Gewürznelke. Cloves.
Glasur aus Zucker. Icing.
Gombo. Gumbo. Okra.
Granatapfel. Pomegranate.
Grünzeug. "Greens." Green vegetables.
Grütze. Groats.
Guava. Guava.
Gurken. Cucumbers.
Eingemachte Gurken. Essig Gurken. Pickled cucumbers.
Kleine Essig Gurken. Gherkins.

H

Hafergrütze. Oatmeal.
Hahnenkämme. Cockscombs.
Hammelfleisch. Mutton.
Hase. Hare.
Haselnüsse. Hazel-nuts.
Haut. Skin.
Hefe. Yeast.
Heidelbeeren. Huckleberries. Blueberries.
Hering. Herring.
Geräucherter Hering. Kippered herring. Smoked herring. Bloater (*Englischer*).
Salzhering. Marinirter Hering. Pickled herring.
Herz. Heart.
Himbeeren. Raspberries.
Himbeeren - Saft. Raspberry vinegar.
Hinterviertel. Hindquarter.
Holzäpfel. Crab apples.
Honig. Honey.
Honigwabe. Honeycomb.
Hopfen. Hops.
Hüfte. Haunch.
Huhn. Hen. Chicken.
Junges Huhn. Pullet. Spring chicken.
Brathuhn. Roasting chicken.
Hühnerklein. Giblets.
Hummer. Lobster.

I

Ingwer. Ginger.
Ingwer-Ale. Ginger ale.

J

Jerusalem-Artischocke. Jerusalem artichoke.
Johannisbeeren. Currants (fresh).
Johannisbeergelee. Currant jelly.
Johannisbrot. Carob-bean. St. John's Bread.

K

Kabeljau. Codfish.
Kabeljau-Blasen. Cod sounds.
Kabeljau-Zungen. Cod tongues.
Kaffee. Coffee.
Kaffeebohnen. Whole coffee.
Gebrannter Kaffee. Roasted coffee.
Gemahlener Kaffee. Ground coffee.
Kakao. Cocoa.
Kalbfleisch. Veal.
Kalbshirn. Calf's brains.
Kalbskopf. Calf's head.
Kalbsleber. Calf's liver.
Kaldaunen. Tripe.
Kammuschel. Scallops.
Kanehl. Cassia.
Kaninchen. Rabbit.
Kantalupe. Cantaloupe.
Kapaun. Capon.
Kapern. Capers.
Kardamom. Cardamom.
Karotten. Carrots.
Kartoffeln. Potatoes.
Käse. Cheese.
Geriebener Käse. Grated cheese.
Rahmkäse. Cream cheese.
Käsekuchen. Cheese cake.
Käselab. Rennet.
Kastanien. Chestnuts.
Kandirte Kastanien. Candied chestnuts.
Kaviar. Caviar.
Keule. Leg (*Schenkel*). Round (*Quer aus der Keule geschnittene Scheibe.* S. 57).
Kirschen. Cherries.
Kandirte Kirschen. Candied cherries.
Klauen. Claws.
Knoblauch. Garlic.
Knoblauchzehe. Clove of garlic.
Knöchel. Knuckle.
Knochen. Bone.
Kohl. Cabbage.
Kohl Salat. Cold slaw.
Kohlensäurehaltige Wasser. Carbonated waters. Soda water.
Kohlensaures Natron. Carbonate of soda.
Kohlrabi. Kohlrabi.
Kokosnuss. Cocoanut.
Konditorei. Confectionery.
Kopf. Head.
Kopfsalat. Lettuce.
Koriander. Coriander.
Korinthen. Currants (dried).
Kornbranntwein. Whisky.
Kornstärke. Cornstarch.
Kotelett. Cutlet.
Krabbe. Crab.
Weichschalige Krabbe. Soft-shell crab.
Krauskohl. Kale.
Kraut. Cabbage.
Kräuter. Herbs.
Feine Kräuter. Gewürzkräuter. Küchenkräuter. Fine herbs. Sweet herbs.
Kresse. Cress.
Kuchen. Cake.
Kümmelsame. Caraway seed.
Kürbis. Pumpkin.

L

Lachs. Salmon.
Laib. Loaf.
Lake. Brine.
Lakritze. Licorice.
Lambertsnüsse. Filberts.
Lamm. Lamb.
Milchlamm. Spring lamb.
Laberdan. Salt cod.
Lauch. Leeks.
Leber. Liver.
Lebertran. Cod liver oil.
Lendenstück. Loin. Tenderloin.

Wörterbuch der Deutschen-Englischen Sprache—*Continued.*

Limette. Lime.
Limonade. Lemonade.
Limonensaft. Lime juice.
Linsen. Lentils.
Lorbeerblätter. Bay leaves.
Löwenzahn. Dandelion.

M

Magen. Stomach. Gizzard (*von Geflügel*).
Magenbitter. Bitters.
Maifisch. Shad.
Mais. Corn (Indian). Maize.
Maisgries. Farina.
Maismehl. Cornmeal. Indian meal.
Maisstarke. Cornstarch.
Weisser Mais Gries. Grob gemahlener Mais. Hominy.
Makaroni. Macaroni.
Makrele. Mackerel.
Salz-Makrele. Salt mackerel.
Makronen. Macaroons.
Malz. Malt.
Mandeln. Almonds.
Bittere Mandeln. Bitter almonds.
Gebrannte Mandeln. Zucker Mandeln. Burned almonds (in sugar).
Geschälte Mandeln. Shelled almonds.
Süsse Mandeln. Sweet almonds.
Mandelteig. Almond paste.
Mangofrucht. Mango.
Mark. Marrow.
Markknochen. Marrow bone.
Marmelade. Marmalade (*Eingemachte Orangen*). Jam.
Maronen. Chestnuts.
Marrubium Pastillen. Horehound candy.
Marzipan. Marchpane.
Maulbeeren. Mulberries.
Meeraal. Sea eel.
Meerrettig. Horseradish.
Mehl. Flour.
Meiran. Marjoram (sweet).
Melasse. Molasses.
Melone. Melon.
Bisam Melone. Cantaloupe. Musk-melon.
Melonenkürbis. Squash.
Milch. Milk.
Condensirte Milch. Condensed milk.
Milcher. Roe (soft). Milt.
Mineral-Wasser. Mineral waters.
Minze. Mint.
Mispel. Medlar.
Mohrrüben. Carrots.
Moor-Huhn. Grouse.
Mostrich. Mustard.
Muscheln. Mussels.
Muskatblüte. Mace.
Muskatnuss. Nutmeg.

N

Nachtisch. Dessert.
Nektarine. Nectarine.
Nelkenpfeffer. Allspice.
Nieren. Kidney.
Nudeln. Noodles.
Nüsse. Nuts.

O

Obst. Fruit.
Ochra. Okra.
Ochsenschwanz. Ox tail.
Ochsenzunge. Ox tongue.
Öl. Oil.
Oliven. Olives.
Olivenöl. Olive oil.
Orangen. Oranges.

P

Paradiesapfel. Tomato.
Paranüsse. Brazil nuts.
Pastete. Pie. Patty (*Klein*).
Pastillen. Lozenges.
Pastinake. Parsnips.
Perlhuhn. Guinea fowl.
Petersilie. Parsley.
Pfeffer. Pepper.
Roter Pfeffer. Red Pepper.
Schwarzer Pfeffer. Black pepper.
Spanischer Pfeffer. Cayenne pepper.
Weisser Pfeffer. White pepper.
Pfefferkörner. Peppercorns.
Pfefferschoten. Whole peppers.
Pfefferkuchen. Gingerbread.
Pfefferminze. Peppermint.
Pfeilwurz. Arrowroot.
Pfirsiche. Peaches.
Pflaumen. Plums.
Pilze. Mushrooms.
Tafelpilze. Button mushrooms.
Pistaziennüsse. Pistachio nuts.
Plumpudding. Plum pudding.
Pökelfleisch. Corned (*oder* Salt) pork.
Pompelmuse. Grape fruit.
Portwein. Port.
Preisselbeeren. Cranberries.
Presskopf. Head cheese. Brawn.
Punsch. Punch.
Puter. Turkey.
Junger Puter. Young turkey.

Q

Quark. Curd.
Quitte. Quince.

R

Rahm. Cream.
Rebhuhn. Partridge.
Reineclauden. Greengages.
Reis. Rice.
Reismehl. Rice flour.
Rettige. Radishes.
Rhabarber. Rhubarb.
Rheinwein. Rhine wine.
Rindfleisch. Beef.
Rinderbraten. Roast beef.
Gepökeltes Rindfleisch. Corned beef.
Getrocknetes Rindfleisch. Dried beef.
Gewürztes Rindfleisch. Spiced beef.
Rindsnierenfett. Suet (beef).
Rippchen. Chops. Cutlets.
Rippe. Rib.
Rogen. Roe (hard).
Roggen. Rye.
Roggenmehl. Rye flour.
Römischer Salat. Romaine (lettuce).
Rosenkohl. Brussels sprouts.
Rosinen. Raisins.
Rosinenkuchen. "Plum" cake.
Rotwein. Claret.
Rüben. Turnips.
Rücken. Rückenstück. Saddle.
Rum (aus Zuckerrohr). Rum.
Rumpfstück. Rump.
Runkelrüben. Beetroots.

S

Saft. Juice.
Sago. Sago.
Sahne. Cream.
Salat. Salad.
Salbei. Sage.
Salsify. Oyster plant.
Salz. Salt.
Salzwasser. Brine.
Sardinen. Sardines.
Sarsaparille. Sarsaparilla.
Sassafras. Sassafras.
Sauce. Sauce.

Wörterbuch der Deutschen-Englischen Sprache—*Continued.*

Sauerampfer. Sorrel.
Sauerkraut. Sourkraut.
Savoyerkohl. Savoy cabbage.
Schalotte. Shallot.
Schaltiere. Shellfish.
Scheibe. Slice.
Schellfisch. Haddock.
Geräucherter Schellfisch. Smoked haddock. "Finnan Haddie."
Schenkel. Haunch.
Scheren. Claws.
Schiffszwieback. Hard tack.
Schildkröte. Tortoise (*Fluss-*, und *Land-*). Turtle (*Meer-*).
Schinken. Ham.
Schlegel. Leg.
Schnecken. Snails.
Schnepfe. Snipe.
Schnitte. Slice.
Schokolade. Chocolate.
Scholle. Sole.
Schulter. Shoulder.
Schwanzstück. Hip. Rump.
Schwartenmagen. Head cheese. Brawn.
Schwein. Pig.
Schweinefleisch. Pork.
Frisches Schweinefleisch. Fresh pork.
Schweinszunge. Pig's tongue.
Milchschwein. Sucking pig.
Schweineschmalz. Lard.
Seezunge. Sole.
Sekt. Champagne.
Sellerie. Celery.
Senf. Mustard.
Sirup. Syrup.
Soda. Soda.
Solperrippchen. Spare ribs.
Spanferkei. Sucking pig.
Spargel. Asparagus.
Grüner Spargel. Green asparagus.
Weisser Spargel. White asparagus.
Spargelköpfe. Asparagus tips.
Spargelkohl. Broccoli.
Speck. Bacon.
Speckscheiben. Rasher of bacon.
Speiseöl. Sweet oil.
Spinat. Spinach.
Spiritus. Alcohol.
Sprotten. Sprats.
Stachelbeeren. Gooseberries.
Steckrüben. Turnips.
Steinbutt. Turbot.
Stockfisch. Dried cod.
Stör. Sturgeon.
Sukkade. Candied citron.
Suppe. Soup.
Süsse Kartoffeln. Sweet potatoes.
Süssholz. Licorice.
Süssigkeiten. Candy. Sweets.

T

Talg. Suet (mutton).
Tamarinden. Tamarinds.
Tapioka. Tapioca.
Taube. Pigeon.
Junge Taube. Squab.
Thee. Tea.
Thunfisch. Tunuy Fish.
Thymian. Thyme.
Wilder Thymian. Wild thyme.
Tomate. Tomato.
Torte. Tart.
Trauben. Grapes.
Traubengelee. Grape jelly.
Traubensaft. Grape juice.
Trüffeln. Truffles.
Truthahn. Turkey.
Tunke. Sauce.

V

Vanille. Vanilla.
Vanilleschote. Vanilla bean.
Venusmuscheln. Clams (hard).
Vorderviertel. Forequarter.

W

Wachholderbranntwein. Gin.
Wachtel. Quail.
Waffeln. Waffles.
Waldhuhn. Grouse.
Wallnüsse. Walnuts.
Wasser. Water.
Wassermelone. Watermelon.
Weichmuscheln. Solt clams.
Wein. Wine.
Rotwein. Red wine.
Schaumwein. Sparkling wine.
Süsser Wein. Sweet wine.
Weisswein. White wine.
Weingeist. Alcohol. Spirits of wine.
Weinsteinrahm. Cream of tartar.
Weissfischen. Whitebait.
Weizen. Wheat.
Weizengries. Farina.
Whisky. Whisky.
Wildbret. Venison (*Hirschfleisch*). Game (*Alles Wild*).
Wildgeflügel. Game birds.
Wurst. Sausage.
Würze. Seasoning.

X

Xereswein. Sherry.

Z

Zimmt. Cinnamon.
Zucker. Sugar.
Brauner Zucker. Brown sugar.
Körniger Zucker. Granulated sugar.
Puder-Zucker. Powdered sugar.
Stücken-Zucker. Lump sugar.
Zuckerguss. Icing. Frosting.
Zuckerwerk. Candy.
Zunge. Tongue.
Zwetsche. Damson (plum).
Zwieback. Biscults.
Zwiebeln. Onions.

DIZIONARIO ITALIANO-INGLESE.

A

Acciughe. Anchovies.
Burro di acciughe. Anchovy butter.
Pasta di acciughe. Anchovy paste.
Acciugata. Anchovy sauce. Anchovy essence.
Acero, Sciroppo di. Maple syrup.
Acero, Zucchero di. Maple sugar.
Aceto. Vinegar.
Aceto d'orzo. Malt vinegar.
Aceto di sidro. Cider vinegar.
Aceto di vino. Wine vinegar.
Acetosa. Sorrel.
Acqua. Water.
Acque carbonate. Carbonated waters. Soda water.
Acque minerali. Mineral waters.
Acquavite. Brandy.
Acquavite di orzo (*o di segala, ecc.*). Whisky.
Aglio. Garlic.
Agnello. Lamb.
Agnello di latte. Spring lamb.
Ala. Wing.
Albicocche. Apricots.
Albume. Egg whites.
Alcool. Alcohol.
Alloro, Foglie d'. Bay leaves.
Amaretti. Macaroons.
Amari. Bitters.
Amido di grano (saraceno). Cornstarch.
Ananasso. Pineapple.
Anca. Haunch (*quarto di dietro —di selvaggiume*). Hip (*natica*).
Anguilla. Eel.
Anice. Anise.
Animella. Sweetbread.
Animella di vitello. Calf's sweetbread.
Anitra. Duck.
Anitra selvatica. Wild duck.
Aranci. Oranges.
Conserva di aranci. Marmalade.
Aringa. Herring.
Aringa affumicata. Kippered herring. Smoked herring. "Bloaters" (*Inglese*).
Aringa marinata. Pickled herring.
Arrosto. Roast.
Arrowroot. Arrowroot.
Artemisia. Tarragon.
Asparagi. Asparagus.
Asparagi bianchi. White asparagus.
Asparagi verdi. Green asparagus.
Punte d'asparagi. Asparagus tips.
Astaco. Lobster.
Avellane. Filberts.
Avena, Farina di. Oatmeal.

B

Baccalà. Codfish.
Baccalà salato. Salt cod.
Baccalà secco. Dried cod.
Bacche. Berries.
Bacche di mortella. Cranberries.
Banane. Bananas.
Barba di becco. Oyster plant.
Barbabietole. Beetroots.
Batate. Sweet potatoes.
Beccaccino. Snipe.
Bianchetti. Whitebait.
Birra. Beer.
Birra inglese. Ale.
Biscotti. Biscottini. Biscuits.
Bistecca. Steak.
Braciuola. Steak.
Broccoli. Broccoli.
Broccoli di Brusselle. Brussels sprouts.
Brodo. Broth.
Budino Inglese. Plum pudding.
Burro. Butter.
Burro per cuocere. Cooking butter.
Burro salato. Salt butter.

C

Cacao. Cocoa.
Caffé. Coffee.
Caffé in grani. Whole coffee.
Caffé macinato. Ground coffee.
Caffé tostato. Roasted coffee.
Caglio. Rennet.
Cannella. Cinnamon.
Capperi. Capers.
Cappone. Capon.
Carciofi. Artichokes.
Fondi (*o torsi*) *di carciofo.* Artichoke bottoms.
Cardamomo. Cardamom.
Carne. Meat.
Essenza di carne. Meat extract.
Carote. Carrots.
Carruba. Carob-bean. St. John's bread.
Carvi, Seme di. Caraway seed.
Cassia (corteccia). Cassia.
Castagne. Chestnuts.
Castagne candite. Candied chestnuts.
Castrato. Mutton.
Caviale. Caviar.
Cavolo. Cabbage.
Cavolo rosso. Red cabbage.
Cavoli salati. Sourkraut.
Insalata di cavolo. Cold slaw.
Cavolo cappuccio. Savoy cabbage.
Cavolo fiore. Cauliflower.
Cavolo rapa. Kohlrabi.
Cavolo riccio. Kale.
Cedrato candito. Candied citron.
Cervella. Brains.
Cetriuoli. Cucumber.
Cetriuoli sotto aceto. Pickled cucumbers.
Cetriuoli sotto aneto. Dill pickles.
Cetriuolini (*all 'aceto*). Gherkins.
Champagne. Champagne.
Cheppia. Shad.
Chicche. Candy.
Cialde. Waffles.
Cicoria. Chicory.
Ciliegie. Cherries.
Ciliegie candite. Candied cherries.
Cioccolata. Chocolate.
Cipolle. Onions.

Dizionario Italiano-Inglese—*Continued.*

Claretto. Claret.
Cocomero. Watermelon.
Coda di bue. Ox tail.
Cognac. Brandy.
Collo. Neck. Rack (v. 407).
Condimento. Seasoning.
Confetti. 1—Candy (*dolci, chicche*). 2—Jam (*frutta indolcite collo zucchero sciroppato e cotto*).
Confettura. Jam (v. *Confetti* 2).
Coniglio. Rabbit.
Conserva. Jam. Preserves.
Coriandoli. Coriander.
Coscia. Leg.
Costola. Rib.
Costolette. Cutlets. Chops.
Crauti. Sourkraut.
Crema. Cream.
Crema ghiacciata. Ice cream.
Cremor di tartaro. Cream of tartar.
Crescione. Cress.
Crescione di riviera. Watercress.
Creste di gallo. Cockscombs.
Crosta di zucchero. Icing. Frosting.
Crostata. Pie. Tart (*piccolo*).
Culatta. Rump.
Cuore. Heart.

D

Damoscina. Damson (plum).
Datteri. Dates.
Datteri di mare. Mussels.
Dolci. Candy. Sweets.

E

Elianto tuberoso. Jerusalem artichoke.
Erbaggio. Herbs.
Erbe fini. Erbe aromatiche. Fine herbs. Sweet herbs.
Essenza. Estratto. Extract.

F

Faggiole. Beechnuts.
Fagiano. Pheasant.
Fagiuoli. Beans. Kidney beans.
Fagiuoli giovani. Young green beans.
Fagiuoli di Lima. Lima beans.
Fagiuoli secchi. Navy beans.
Fagiuoletti. Fagiuolini. String beans.
Fagiuolini gialli. Wax beans.
Farina. Flour.
Farina saracena. Cornmeal. Indian meal. Farina (v. 715).
Fave. Beans.
Favo. Honeycomb.
Fegato. Liver.
Fetta. Slice.
Fetta sottile di lardo. Rasher of bacon.
Fichi. Figs.
Filetto. Tenderloin.
Focaccia. Cake.
Focaccia inglese. Focaccia con uva passa. "Plum" cake.
Forbici. Claws.
Formaggio. Cheese.
Formaggio di crema. Formaggio grasso. Cream cheese.
Formaggio grattato. Grated cheese.
Focaccia di formaggio. Cheese cake.
Fragole. Strawberries.
Focaccia di fragole. Strawberry shortcake.
Frattaglie. Giblets.
Frumento. Wheat.
Frutta. Fruit.
Frutta candita. Candied fruit.
Frutta secca. Dried fruit.
Fu. Corn salad (plant).
Funghi. Mushrooms.
Funghicini. Button mushrooms.

G

Galletta. Hard tack.
Galletto. Spring chicken.
Gallina. Hen.
Gallina di faraone. Guinea fowl.
Gallo di montagna. Grouse.
Gambe. Leg.
Gamberetti di mare. Prawns.
Gamberettini. Shrimps.
Gambero d' acqua dolce. Crayfish.
Gambero marino. Lobster.
Garofani. Cloves.
Gelatina. Gelatine. Jelly (*gelatina di frutti*).
Gelato. Ice cream. Ice (dessert).
Ghiaccio. Ice.
Giambone. Ham.
Ginepro. Gin.
Granchio. Crab.
Granchio a guscio molle. Softshell crab.
Granchio ostrica. Oyster crab.
Granchiolini. Prawns. Shrimps.
Grano mondato. Groats.
Grano saraceno. Corn (Indian). Maize.
Grasso. Fat.
Grasso strutto (di porco). Lard.
Grongo. Sea eel.
Guajava. Guava.
Guarnitura. Garnishing.

I

Indivia. Endive.
Insalata. Salad.

L

Lamponi. Raspberries.
Aceto di lamponi. Raspberry vinegar.
Lardo. Bacon (*grasso di porco, salato e affumicato*). Lard (*grasso strutto*).
Lardone. Corned (*o* Salt) pork.
Laterini. Sprats.
Latte. Milk.
Latte condensato. Condensed milk.
Latte quagliato. Curd.
Latte di pesce. Roe (soft). Milt.
Lattuga. Lettuce.
Lattuga romana. Romaine (lettuce).
Lenticchie. Lentils.
Lepre. Hare.
Lievito. Yeast.
Lima (*piccolo limone*). Lime.
Agro di lima. Lime juice.
Limonata. Lemonade.
Limone. Lemon.
Essenza di limone. Estratto di limone. Lemon extract.
Scorza di limone. Lemon peel.
Scorza di limone candita. Candied lemon peel.
Agro di limone. Sugo di limone. Lemon juice.
Lingua. Tongue.
Liquirizia. Licorice.
Lombo. Loin.
Lumache. Snails.
Luppoli. Hops.

M

Maccheroni. Macaroni.
Macerone. Dandelion.
Macis. Mace.
Majale. Pig.
Magiorana (dolce). Marjoram (sweet).
Mandorle. Almonds.
Mandorle abbrustolite (in zucchero). Burned almonds (in sugar).

Dizionario Italiano-Inglese—*Continued.*

Mandorle amare. Bitter almonds.
Mandorle dolci. Sweet almonds.
Mandorle sbucciate. Shelled almonds.
Pasta di mandorla. Almond paste.

Mango. Mango.

Manzo. Beef.
Manzo aromatico. Spiced beef.
Manzo arrosto. Roast beef.
Manzo salato. Corned beef.
Manzo seccato. Dried beef.
Lingua di manzo. Ox tongue.

Marmellata. Marmalade (*in generale, conserva d'aranci*).

Marrobbio, Confetti di. Horehound candy.

Marzapane. Marchpane.

Melanzana. Egg plant.

Mele. Apples.
Mele da cuoccre. Cooking apples.
Mele da mangiare. Eating apples.
Mele secche. Dried apples.
Mele selvatiche. Crab apples.

Mela cotogna. Quince.

Melassa. Molasses.

Melegrana. Pomegranate.

Mellone. Melon.
Mellone muschiato. Musk melon.
Meloncini. Cantaloupe. Musk melon.

Menta. Mint.
Menta pepata. Peppermint.

Merluzzo. Codfish.
Lingue di merluzzo. Cod tongues.
Vescica di merluzzo. Cod sounds.

Merluzzo, Olio di fegato di. Cod liver oil.

Midollo. Marrow.
Osso midolloso. Marrow bone.

Miele. Honey.

Mirtillo. Huckleberries. Blueberries.

More. Mulberries.

More di rovo. Blackberries.

Mostarda. Mustard.

N

Nespola. Medlar.

Nocca. Knuckle.

Nocciuole. Filberts. Hazelnuts.

Noci. Walnuts.
Noce di cocco. Cocoanut.
Noci del Brasile. Brazil nuts.
Noce moscata. Nutmeg.
Noci di pistacchio. Pistachios.

O

Oca. Goose.
Fegato d'oca. Goose liver.

Ocra. Okra.

Olio. Oil.
Olio da tavola. Sweet oil.
Olio d'oliva. Olive oil.

Olive. Olives.

Orzo. Barley.
Orzo malto. Malt.

Osso. Bone.

Ostriche. Oysters.

P

Pampelimossa. Grape fruit.

Pane. Bread. Loaf of bread.
Pane bianco. White bread.
Pane bruno. Pan nero. Brown bread.
Pane casalingo. Home made bread.
Pane fresco. New bread.
Pane di segala. Rye bread.
Pane abbrustolato. Toast.

Pan pepato. Gingerbread.

Panini. Roll.

Papero. Gosling.

Patate. Potatoes.

Patate dolci. Sweet potatoes.

Pasticcieria. Pastry.

Pasticcio. Pie.

Pasticcetto. Patty.

Pastiglie. Lozenges.

Pastinache. Parsnips.

Pelle. Skin.

Pepe. Pepper.
Pepe bianco. White pepper.
Pepe nero. Black pepper.
Pepe rosso. Red pepper.
Pepe di Caienna. Cayenne pepper.
Grani di pepe. Peppercorns.

Peperoni di Guinea. Chilies.

Peperoni comuni. Sweet peppers.

Pere. Pears.

Pera avvocato. Alligator pear.

Pernice. Partridge.

Pesche. Peaches.

Pesca noce. Nectarine.

Pesce. Fish.
Pesce d'acqua fresca. Freshwater fish.
Pesce di mare. Salt-water fish.

Pesce di scorza. Pesce con guscio. Shellfish.

Petto. Brisket (*di bue, ecc.*). Breast (*d'agnello o d'uccello*).

Pettonchi. Scallops.

Piccione. Pigeon.
Piccione novello. Piccioncello. Squab.

Piedi. Feet. "Trotters."

Pimento, Coccola di. Allspice.

Piselli. Peas.
Piselli spaccati. Split peas.
Piselli verdi. Green peas.

Pistacchi di terra. Peanuts.

Pollame. Poultry.

Pollo. Chicken.
Pollo per arrosto. Roasting chicken.
Pollastrino. Pullet. Spring chicken.

Polvere crescente. Baking powder.

Pomo d'oro. Tomato.

Ponce. Punch.

Porco. Pig (*il majale*). Pork (*la carne di majale*).
Porco fresco. Fresh pork.
Porco salato. Corned (o Salt) pork.
Porcellino lattante. Sucking pig.
Lingua di porco. Pig's tongue.
Costole di porco. Spare ribs.

Porri. Leeks.

Pospasto (dessert). Dessert.

Prezzemolo. Parsley.

Prosciutto. Ham.

Prugne. Plums.
Pruna di damasco. Damson (plum).

Prugne secche. Prunes.

Q

Quaglia. Quail.

Quarto davanti. Forequarter.

Quarto di dietro. Hindquarter.

R

Rabarbaro. Rhubarb.

Rafano. Ramolaccio. Horseradish.

Ranocchie, Gambe di. Frogs' legs.

Rape. Turnips.

Ravanelli. Radishes.

Rhum. Rum.

Ribes. Currants.
Gelatina di ribes. Conserva di ribes. Currant jelly.

Dizionario Italiano-Inglese—*Continued.*

Ribes uva spina. Gooseberries.
Ripieno. Stuffing.
Riso. Rice.
Farina di riso. Rice flour.
Rognone. Kidney.
Rombo. Turbot.
Rostbif. Roast beef.
Rotella (di manzo). Round (of beef).

S

Saggina. Buckwheat.
Sago. Sago.
Saime. Lard.
Sale. Salt.
Salmoja. Brine.
Salmone. Salmon.
Salsa. Sauce.
Salsapariglia. Sarsaparilla.
Salsiccia. Sausage.
Salvia. Sage.
Sangue. Blood.
Sanguinaccio. Blood pudding.
Sardine. Sardines.
Sassafrasso. Sassafras.
Scalogno. Shallot.
Schiena. Saddle.
Sciampagna. Champagne.
Sciroppo. Syrup.
Sedano. Celery.
Segala. Rye.
Farina di segala. Rye flour.
Selvaggiume. Game (*qualsisia animale, quadrupede o volatile, preso alla caccia*). Venison (*carne di cervi*).
Semolino. Farina.
Senapa. Mustard.
Sermollino. Wild thyme.
Sgombro. Mackerel.
Sgombro salato. Salt mackerel.
Sidro. Cider.
Siero di latte. Buttermilk.
Soda. Carbonato di soda. Soda. Carbonate of soda.
Sogliuola (pesce). Sole.
Sorbetto. Ice.
Sourcrout. Sourkraut.
Spalla. Shoulder.
Spezie. Spice.
Spinacci. Spinach.
Stomaco. Stomach.
Storione. Sturgeon.
Succo. Sugo. Juice.
Sugna. Suet.
Susine verdi. Greengages.

T

Tacchino. Turkey.
Tacchino giovane. Young turkey.
Taglio. Joint.
Tamarindi. Tamarinds.
Tanaglie. Claws.
Tapioca. Tapioca.
Targone. Tarragon.
Tartaruga. Tortoise (*tartarughe di terra e di fiume*). Turtle (*tartaruga di mare*).
Tartufi. Truffles.
Te. Tea.
Testa. Head.
Timo. Thyme.
Tomata. Tomato.
Tonno. Tunny fish.
Torta. Pie (*torta di mele, ecc.*). Tart (*piccolo*). Pudding (*torta di riso, ecc.*).
Trippa. Tripe.
Trota. Trout.
Tuorlo. Yolks.

U

Uova. Eggs.
Bianco d'uovo. Whites (of eggs).
Rosso d'uovo. Yolks.
Uova di pesce. Roe (hard).
Uva. Grapes.
Conserva d'uva. Grape jelly.
Sugo d'uva. Grape juice.
Uva passa. Raisins.
Uva passa di Corinto. Currants (dried).
Uva crespina. Gooseberries.

V

Vainiglia. Vanilla.
Fagiuolo di vainiglia. Vanilla bean.
Valeriana domestica. Corn salad (plant).
Vegetali. Vegetables.
Ventriccio. Ventriglio. Gizzard.
Verdura. "Greens." Green vegetables.
Vermicelli. Vermicelli.
Vino. Wine.
Vino bianco. White wine.
Vino di Bordo. Vino rosso. Claret.
Vino di Borgogna. Burgundy wine.
Vino dolce. Sweet wine.
Vino di Oporto. Port.
Vino del Reno. Rhine wine.
Vino rosso. Red wine.
Vino spumante. Sparkling wine.
Vino di Xeres. Sherry.
Vitello. Veal.
Cervella di vitello. Calf's brains.
Fegato di vitello. Calf's liver.
Testa di vitello. Calf's head.

Z

Zenzero. Ginger.
Birra di zenzero. Ginger ale.
Zucca. Squash.
Zucca melopopone. Pumpkin.
Zucchero. Sugar.
Zucchero in grano. Granulated sugar.
Zucchero di muscavado. Brown sugar.
Zucchero in pani. Lump sugar.
Zucchero polverizzato. Powdered sugar.
Zuppa. Soup.

SVENSK-ENGELSK ORDBOK.

A

Alkohol. Alcohol.
Alligator-Päron. Alligator Pear.
Ananas. Pineapple.
And. Duck.
Anis. Anise.
Ansjovis. Anchovies.
Ansjovismassa. Anchovy paste.
Ansjovissmör. Anchovy butter.
Ansjovissås. Anchovy sauce.
Apelsiner. Oranges.
Aprikoser. Apricots.
Arrowrotmjöl. Arrowroot.

B

Backtimjan. Wild thyme.
Bakfjärding. Hindquarter.
Bakverk. Pastry.
Bananer. Bananas.
Beckasin. Snipe.
Ben. Bone. Leg (*lår*).
Betor. Beetroots.
Biffstek. Steak.
Bitter-vin. Bitters.
Björnbär. Blackberries.
Blod. Blood.
Blodkorf. Blodpudding. Blood pudding.
Blomkål. Cauliflower.
Blåbär. Huckleberries. Blueberries.
Bog. Shoulder.
Bohvete. Buckwheat.
Boknötter. Beechnuts.
Bourgognevin. Burgundy (wine).
Brasilnötter. Brazil nuts.
Bringa. Breast (*af lam och fågel*). Brisket (*af oxe*).
Brysselkål. Brussels sprouts.
Bräss. Sweetbread.
Kalfbräss. Calf's sweetbread.
Bröd. Bread.
Franskt bröd. Smör bröd. Roll.
Färskt bröd. New bread.
Groft bröd. Brown bread.
Hembakadt bröd. Home-made bread.
Hvetebröd. White bread.
Rågbröd. Rye bread.
Rostadt bröd. Toast.
Bröst. Breast.
Bröstkarameller. Cough drops.
Bär. Berries.
Bönor. Beans.
Bond-bönor. Lima beans.
Bruna bönor. (Brown) Kidney beans.
Gröna bönor. Young green beans.
Hvita bönor. Navy beans.
Lima-bönor. Lima beans.
Skärbönor. String beans. French beans.
Turska-bönor. Kidney beans.
Vaxbönor. Wax beans.

C

Champagne. Champagne.
Champinjoner. Mushrooms.
Champinjonhufvud. Button mushrooms.
Chokolad. Chocolate.
Cider. Cider.
Cikoria. Chicory.
Citron. 1—Lemon. 2—Citron (*en stor starkt kryddad frukt af citron slägtet, hvars skal användes kanderadt—"Succat"*).
Citronskal. Lemon peel.
Kanderad citronskal. Candied lemon peel. Candied citron (*v. Citron*).
Citronextrakt. Lemon extract.
Sur citronsaft. Lemon juice.
Cremor tartari. Cream of tartar.

D

Dadlar. Dates.
Damascenerplommon. Damson (plum).
Dessert. Dessert.
Dillgurkor. Dill pickles.
Dragonört. Tarragon.
Drufgelé. Grape jelly.
Drufsaft. Grape juice.
Dubbelsmörgås. Sandwich.
Dufva. Pigeon.
Ung dufva. Squab.

E

Endivia. Endive.
"Estragon." Tarragon.
Extrakt. Extract.

F

Fasan. Pheasant.
Fett. Fat.
Fikon. Figs.
Filbertsnötter. Filberts.
Filet. Tenderloin.
Fisk. Fish.
Insjöfisk. Fresh-water fish.
Fisklefvertran. Cod liver oil.
Fjäderfä. Poultry.
Flodkräftor. Crayfish.
Fläsk. Pork.
Rökt fläsk. Bacon.
Färskt fläsk. Fresh pork.
Salt flask. Corned (*eller* Salt) pork.
Forell. Trout.
Framfjärding. Forequarter.
Frukt. Fruit.
Kanderad frukt. Candied fruit.
Torkad frukt. Dried fruit.
Fyllning. Stuffing.
Fågelkrås. Giblets.
Fårkött. Mutton.
Fötter. Feet. "Trotters."

G

Garnering. Garnishing.
Gelatin. Gelatine.
Gelé. Jelly.
Genever. Genever bränvin. Gin.
Glace. Ice (*som frukt glace*). Ice cream (*gräddglace*).
Glasering. Glasyr. Icing. Frosting.
Granatäpple. Pomegranate.
Grape frukt. Grape fruit.
Gris. Pig.
Digris. Sucking pig.
Gristunga. Pig's tongue.
Grodben. Frogs' legs.
Grädde. Cream.
Grönsaker. Green vegetables. "Greens."

Svensk-Engelsk Ordbok—*Continued.*

Grönsalad. Lettuce.
Guavafrukt. Guava.
Gurkor. Cucumbers.
Ättiksgurkor. Saltgurkor. Pickled cucumbers.
Syltgurkor. Sweet pickled cucumbers.
Inlagda gurkor. Spiced pickled cucumbers.
Vesterås gurkor. Gherkins.
Gås. Goose.
Gåskrås. Goose giblets.
Gåsunge. Gosling.
Gåslefver. Goose liver.

H

Hafremjöl. Oatmeal.
Hafsfisk. Salt-water fish.
Hafstunga. Sole.
Hallon. Raspberries.
Hallonättika. Raspberry vinegar.
Hals. Halsstycke. Neck.
Hare. Hare.
Hasselnötter. Hazel-nuts.
Hjärna. Brains.
Hjärta. Heart.
Honung. Honey.
Honungskaka. Honeycomb.
Hufvud. Head.
Humle. Hops.
Hummer. Lobster.
Hvete. Wheat.
Hvitkål. Cabbage.
Hvitkål sallat. Cold slaw.
Hvitlök. Garlic.
Höft. Hip.
Höna. Hen.
Hönsfoglar. Poultry.

I

Ingefära. Ginger.
(*Ingefärs*) *Sockerdricka.* Ginger ale.
Innanlår. Round.
Is. Ice.
Ister. Lard.

J

Johannesbröd. Carob-bean. St. John's bread.
Jordärtskocka. Jerusalem artichoke.
Jordgubbar. Strawberries.
Jordgubbstårta. Strawberry shortcake.
Jordnötter. Peanuts.
Jäst. Yeast.
Jästpulver. Baking powder.

K

Kabiljo. Codfish.
Saltad kabiljo. Salt cod.
Torkad kabiljo. Dried cod.
Kaffe. Coffee.
Kaffebönor. Whole coffee.
Brändt (eller *Rostadt*) *kaffe.* Roasted coffee.
Malet kaffe. Ground coffee.
Kaka. Cake.
Kakao. Cocoa.
Kalfhjärna. Calf's brains.
Kalfhufvud. Calf's head.
Kalfkött. Veal.
Kalflefver. Calf's liver.
Kalkon. Turkey.
Kalkonkyckling. Young turkey.
Kammussla. Scallops.
Kandering. Icing.
Kanel. Cinnamon.
Kanin. Rabbit.
Kantaloup-melon. Cantaloupe. Musk melon.
Kapris. Capers.
Kapun. Capon.
Kardemumma. Cardamom.
Kassavagryn. Tapioca.
Kassiabark. Cassia.
Kastanjer. Chestnuts.
Kanderade kastanjer. Candied chestnuts.
Kaviar. Caviar.
Kejsarsallat. Tarragon.
Kex. Biscuits. Crackers.
Klippfisk. Dried cod.
Klor. Claws.
Kokosnöt. Cocoanut.
Kolja. Haddock.
Rökt kolja. Smoked haddock. "Fiunan Haddie."
Kolsyradt natron. Soda.
Konditorivaror. Confectionery.
Konfekt. Confectionery. Candy. Sweets.
Konjak. Brandy.
Konserver. Preserves.
Korf. Sausage.
Koriander. Coriander.
Korinter. Currants (dried).
Korngryn. Barley.
Kotletter. Cutlets. Chops.
Krabba. Crab.
Krabba med mjukt skal. Soft-shell crab.
Kraftsoppa. Broth.
Krasse. Cress.
Kräftor. Crayfish.
Kräfva. Gizzard.
Kronärtskockor. Artichokes.
Kronärtskockbottnar. Artichoke bottoms.
Krossgryn. Groats.
Krusbär. Gooseberries.
Kruskål. Kale.
Krydda. Spice.
Kryddning. Seasoning.
Kryddnejlikor. Cloves.
Kryddpeppar. Allspice.
Kryddväxter. Fine herbs. Sweet herbs.
Kummin. Caraway seed.
Kurbits. Squash.
Kurry. Kurrypeppar. Curry
Kvitten. Quince.
Kyckling. Spring chicken.
Kålrabbi. Kohlrabi.
Kålrötter. Turnips.
Kärnmjölk. Buttermilk.
Köksväxter. Vegetables.
Körsbär. Cherries.
Kanderade körsbär. Candied cherries.
Kött. Meat.
Köttextrakt. Meat extract.
Köttskifva. Steak.

L

Lagerblärsblad. Bay leaves.
Lakrits. Licorice.
Lamkött. Lamb.
Dilamm. Spring lamb.
Lax. Salmon.
Lefver. Liver.
Limonad. Lemonade.
Limon (*en liten citron*). Lime.
Limonsaft. Lime juice.
Linser. Lentils.
Lår. Lårstycke. Leg. Haunch (*bakfjärding — af rådjurskött*).
Lägg. Knuckle.
Ländstycke. Loin (*främre ländstycke*). Rump (*bakre ländstycke*).
Lök. Onions.
Lönnsirap. Maple syrup.
Lönnsocker. Maple sugar.

M

Mage. Stomach.
Maghinna. Tripe.
Majs. Corn (Indian). Maize.
Majskrossgryn. Hominy.
Majsmjöl. Cornmeal. Indian meal.
Majsstärkelse. Cornstarch.

Svensk-Engelsk Ordbok—*Continued.*

Makaroni. Macaroni.
Makrill. Mackerel.
Salt makrill. Salt mackerel.
Makron. Macaroons.
Malt. Malt.
Malört. Bitters.
Mandel. Almonds.
Bittermandel. Bitter almonds.
Brönda mandlar. Burned almonds (in sugar).
Krakmandel. Shelled almonds.
Sötmandel. Sweet almonds.
Mandel massa. Almond paste.
Mandelbakelse. Macaroons.
Mango. Mango.
Marmelad. Marmalade.
Marsipan. Marchpane.
Maskros. Dandelion.
Matolja. Sweet oil.
Mejram. Marjoram (sweet).
Melass. Molasses.
Melon. Melon.
Mineral-vatten. Mineral waters.
Mispel. Medlar.
Mjöl (fint). Flour.
Mjölk. Milk.
Kondenserad mjölk. Condensed milk.
Mjölke. Roe (soft). Milt.
Morötter. Carrots.
Mullbär. Mulberries.
Muskott. Nutmeg.
Muskotblomma. Mace.
Musslor. Mussels. Clams (*en Amerikansk mussla*).
Trâg musslor. Soft clams.
Venus musslor. Hard clams.
Mynta. Mint.
Märg. Marrow.
Märgben. Marrow bone.

N

Nektarin. Nectarine.
Njure. Kidney.
Njurfett. Suet.
Nudlar. Noodles.
Nötter. Nuts.

O

Ochra. Okra.
Oliver. Olives.
Olivolja. Olive oil.
Olja. Oil.
Ost. Cheese.
Gräddost. Cream cheese.
Rifven ost. Grated cheese.
Ostkaka. Cheese cake.
Ostmysja. Curd.
Ostron. Oysters.
Ostronkrabba. Oyster crab.
Oxhare. Loin.
Oxkött. Beef.
Kryddad oxkött. Spiced beef.
Salt oxkött. Corned beef.
Torkadt oxkött. Dried beef.
Oxstek. Roast beef.
Oxsvans. Ox tail.
Oxtunga. Ox tongue.

P

Palsternacka. Parsnips.
Pastej. Pie. Tart (*bakelse*).
Pastilj. Lozenges.
Peppar. Pepper.
Cayenne peppar. Cayenne pepper.
Hvitpeppar. White pepper.
Rödpeppar. Red pepper.
Starkpeppar. Black pepper.
Pepparkorn. Peppercorns.
Färsk peppar. Fresh peppers.
Spansk peppar. Chilies.
Pepparkaka. Gingerbread.
Pepparmynta. Peppermint.
Pepparrot. Horseradish.
Perlhöna. Guinea fowl.
Persikor. Peaches.
Persilja. Parsley.
Pigghvar. Turbot.
Pistacier. Pistachio nuts.
Plommon. Plums.
Gröna plommon. Greengages.
Plumpudding. Plum pudding.
Portvin. Port.
Potatis. Potatoes.
Pressylta. Head cheese. Brawn.
Pumpa. Pumpkin.
Punsch. Punch.
Purjolök. Leeks.
Päron. Pears.

R

Rabarber. Rhubarb.
Rapphöns. Partridge.
Refben. Rib.
Refbensspjäll. Spare ribs.
Reineclaude. Greengages.
Renad vinsten. Cream of tartar.
Renett. Rennet.
Renskt vin. Rhine wine.
Ripa. Grouse.
Ris. Rice.
Rismjöl. Rice flour.
Rofva. Turnips.
Rom. Rum (*en dryck*). Roe (*fisk rom*).
Rostbiff. Roast beef.
Russin. Raisins.
Russinkaka. "Plum" cake.
Rådjurskött. Venison.
Råg. Rye.
Rågmjöl. Rye flour.
Rädisor. Radishes.
Räkor. Prawns. Shrimps.
Ränta. Tripe.
Rödbetor. Beets (red).
Rödkål. Red cabbage.

S

Sadel. Saddle.
Saft. Juice.
Sago. Sago.
Salad. Salad.
Salsofi. Oyster plant.
Salt. Salt.
Saltlake. Saltvatten. Brine.
Salvia. Sage.
Sardiner. Sardines.
Sassafrasbark. Sassafras.
Sassaparill. Sarsaparilla.
Savojkål. Savoy cabbage.
Schalottenlök. Shallot.
Selleri. Celery.
Semolinagryn. Farina.
Senap. Mustard.
Sherry. Sherry.
Sill. Herring.
Inlagd sill. Pickled herring.
Rökt sill. Kippered herring. Smoked herring.
Sirap. Molasses. Syrup.
Sjötunga. Sole.
Skaldjur. Shellfish.
Skarpsill. Sprats.
Skeppsskorpor. Hard tack.
Skifva. Slice. Rasher (*af rökt fläsk*).
Skinka. Rökt skinka. Ham.
Skinn. Skin.
Skorpor. Biscuits.
Sköldpadda. Tortoise (*Land-* eller *Färsk-Vattens-*). Turtle (*Hafs-*).
Småsill. Whitebait.
Smör. Butter.
Matsmör. Cooking butter.
Salt smör. Salt butter.
Smörbakelse. Pastry.
Sniglar. Snails.
Socker. Sugar.
Bitsocker. Lump sugar.
Brunt farinsocker. Brown sugar.
Pudersocker. Powdered sugar.
Strösocker. Granulated sugar.
Sockerrötter. Oyster plant.

Svensk-Engelsk Ordbok—*Continued.*

Sockersirup. Molasses.
Soda. Soda.
Sodavatten. Carbonated waters. Soda water.
Soppa. Soup.
Sparris. Asparagus.
Grön sparris. Green asparagus.
Hvit sparris. Whlte asparagus.
Sparris toppar. Asparagus tips.
Sparriskål. Broccoli.
Spenat. Spinach.
Sprit. Alcohol.
Staksill. Shad.
Stek. Roast. Steak (*köttskifva*).
Stockfish. Dried cod.
Strömming. Whitebait.
Stör. Sturgeon.
Succat. Candied citron.
Surdeg. Leaven.
Surkål. Sourkraut.
Svansstek. Rump.
Svin. Plg.
Svinfett. Lard.
Sviskon. Prunes.
Sylt. Jam.
Sylta. Head cheese. Brawn.
Syra. Sorrel.
Sås. Sauce.
Söt potatis. Sweet potato.
Sötsaker. Candy. Confectionery.

T

Tamarinder. Tamarinds.
Tapioca. Taploca.
Te. Tea.
Timjan. Thyme.
Tomat. Tomato.
Tonfisk. Tunny fish.
Torsk. Codfish.
Simblåsor af torsk. Cod sounds.
Tunga af torsk. Cod tongues.
Tranbär. Cranberries.
Tryffel. Truffles.
Tunga. Tongue.
Tuppkammar. Cockscombs.
Tårta. Pie. Tart (*bakelse*).

U

Unghöns. Chicken. Pullet (*unghöna*).
Unghöns för stekning. Roasting chicken.

V

Vaktel. Quail.
Valnötter. Walnuts.
Vanilj. Vanilla.
Vaniljeböna. Vanilla bean.
Vatten. Water.
Vattenkrasse. Watercress.
Vattenmelon. Watermelon.
Vermiceller. Vermicelli.
Vildand. Wild duck.
Vildt. Game.
Vildäpplen. Crab apples.
Vin. Wine.
Hvitt vin. White wine.
Musserande vin. Sparkling wine.
Rödvin. Red wine. Claret.
Sött vin. Sweet wine.
Vinbär. Currants (fresh).
Vinbärsgelé. Currant jelly.
Vindrufvor. Grapes.
Vinge. Wing.
Vinsyradtkali. Cream of tartar.
Våfflor. Waffles.

W

Whisky. Whisky.

Å

Ål. Eel.
Hafsål. Sea eel.
Insjöål. Fresh-water eel.

Ä

Ägg. Eggs.
Äggbvitor. Egg whites.
Äggulor. Yolks.
Äggplanta. Egg plant.
Äpplen. Apples.
Dessertäpplen. Eating apples.
Matäpplen. Cooking apples.
Torkade äpplen. Dried apples.
Äppelvin. Cider.
Ärter. Peas.
Gröna ärter. Green peas.
Krossade ärter. Split peas.
Ättika. Vinegar.
Ciderättika. Cider vinegar.
Maltättika. Malt vinegar.
Vinättika. Wine vinegar.

Ö

Öl. Beer (*bier*). Ale (*Engelskt öl*).
Örter. Herbs.

CULINARY AND BILL-OF-FARE ITEMS.

A

À la. (1) An elliptical form of *à la mode de*—"in the fashion (or style) of—." (2) *with* (as *à la crème*, "with cream"). (3) *in* (as *à la moutarde*, in mustard sauce).

Aiguillette. A small strip or slice of cooked fish, meat, etc.

Allemande. A smooth, yellow sauce, consisting of *Velouté* with butter, egg yolks, catsup, etc.

Allumettes ("Matches"). A term sometimes applied to things cut in strips—as *Pommes allumettes*, "straw potatoes"; *Allumettes au fromage*, "cheese straws."

Amiral. A red sauce, usually flavored with lobster butter.

Aspic. See page 37.

Attereaux. Pieces of meat cooked together on a skewer.

Au. "With," "in" or "of."

B

Baba (au rhum). Yeast-raised cakes, generally flavored with rum sauce.

Bagration. Generally, a soup of fish and vegetables. Named after Pierre Bagration, a Russian general.

Ballotine. Pieces of meat or poultry, boned and shaped round. Also applied to small game birds stuffed with forcemeat (of ham, poultry, etc.).

Bardé. "Larded"—covered with slices of bacon or fat pork.

Barigoule (Consommé). A game-flavored consommé, garnished with sliced mushrooms and olives, etc.

Bavarois (cream). Whipped cream strengthened with gelatine.

Béarnaise. A sauce resembling a yellow parsley sauce, prepared with egg yolks and butter, chopped parsley, tarragon, etc.

Béchamel. A fine white cream sauce. Invented by the Marquis de Béchamel, maître d'hotel to Louis XIV.

Beignet. Fritter.

Beurre fondu. Melted butter.

Bigarade (sauce). A sauce with bitter-orange (Bigarade orange) flavor.

Biscuit glacé. Rich ice cream containing powdered macaroons—or, without such addition, frozen in paper cases in oblong individual "Biscuit" shapes.

Bisque. See sub-head in article on SOUPS. The word is also sometimes used in the same sense as *Biscuit glacé* (see preceding).

Blanc-mange. See page 71.

Blanchi. Blanched, Parboiled. See sub-head of *Parboiling* in article on COOKERY.

Blanquette. See page 71.

Bleu (au). Plain boiled—used only in speaking of fresh-water fish. *Bleu*, or "Blue," because boiling vinegar should be poured over the fish to give a blue color to the skin.

Bombe ("Bomb"). A filled ice or ice cream "pudding" in ball shape.

Bon Goût ("Good Taste"). A term frequently used in naming highly flavored dishes.

Bonne Femme ("Good Wife"). In plain home style—as of a soup or stew of meat, vegetables, etc.

Bordelaise (sauce). *Espagnole* with the addition of red wine, shallots and marrow.

Bordure (en). With a border—of rice, mashed potato, etc.

Bouchée ("Mouthful"). A small patty. Also applied to some small fancy cakes.

Boudin. A delicate entrée prepared with fish or chicken forcemeat.

Bouillabaisse. A famous French (Provençal) fish stew—made of several kinds of fish, cut into small pieces and stewed with olive oil and a variety of herbs and spices.

Bouilli. (1) Boiled. (2) Boiled beef—especially that which has been used to make bouillon or soup.

Bouillon. See sub-head in article on SOUPS.

Bourgeoise ("Citizen" cooking). In simple family style. See also use of *Bourgeois* in article on CLARET.

Bourgogne, Bourgignonne. Burgundy, Burgundy style. *Burgundy Sauce* is *Espagnole* with the addition of mushrooms, small onions, etc., and Burgundy wine.

Braisé. See *Braising* in article on COOKERY.

Brioche. See page 84.

Broche (à la). Cooked on a skewer.

Brochettes. Pieces of meat cooked on a skewer.

Brouillés. Scrambled.

Buisson. A "bush" or "pyramid"—as a *buisson* of crayfish in the centre of a dish.

C

Café. See sub-head of *Grinding, Preparation, etc.*, in article on COFFEE.

Caisse (en). Served in a case (of paper, china, etc.).

Canapé ("Couch"). Fried or toasted bread, spread with or supporting any one of a great variety of items.

Cannelons. Small rolls of pastry, rice, etc., stuffed with meat or sweets.

Capilotade. Formerly a stew or hash of cold meat but now generally a stew of cooked chicken.

Carafon. A small carafe or decanter, containing ordinarily about one-half pint.

Caramel. See page 100.

Carbonnade. An entrée consisting usually of braised loin of mutton, pork, etc. The term originally meant "half-burned" or "grilled."

Carème. Used in the same way as *Maigre* (see page 356). The name is that of a famous French chef and culinary author.

Casserole (en). Service in a special squat-shaped covered earthenware or metal saucepan, or other similar vessel.

Cassolette. A small casserole.

Chantilly Cream. Sweetened, flavored, whipped cream.

Charlotte. A pudding consisting of a mold, lining, or layers of bread or cake, filled with fruit or cream—as *Apple Charlotte, Charlotte Russe*, etc.

Chartreuse. A mold of different colored vegetables enveloping some kind of meat—as poultry, game, etc. Also the name of a famous liqueur.

Chasseur ("Hunter style"). With, or of, game or mushrooms.

Châteaubriand. A very thick tenderloin steak. Named after Francois Réné, Vicomte de Châteaubriand, a noted statesman, writer and epicure.

Chaud. Hot.

Chaudfroid ("Hot-Cold"). A term applied principally to game birds or poultry, cut or pressed after cooking into various shapes or forms and covered with *chaudfroid*, or jelly sauce, for eating cold.

Chemise (en). With their skins on—generally of potatoes.

Chiffonade. With, or of, shredded vegetables.

Civet. A highly seasoned stew of hare or venison.

Cloche (sous). "Under cover."

Cocotte. A small earthern pot (see CASSEROLE).

Colbert. A clear soup with poached eggs. Also a rich brown sauce. Named after Jean Baptiste Colbert, minister of finance during the reign of Louis XIV.

Compôte. A "stew" of fruits or small birds, the former generally retaining their natural shape.

Condé (à la). A term applied to dishes of stewed fruit served with rice. Named after the last Prince de Condé.

Consommé. See sub-head in article on SOUPS.

Coque (à la). Boiled—of eggs.

Coquelicot (à la). Poppy-shaped or resembling a poppy.

Coquilles (en). In shells or shell shapes.

Coupe. Cup.

Coupe St. Jacques. A fruit macédoine, topped with ice cream, served in punch glasses. The most famous dessert of its type.

Courtbouillon. A highly seasoned fine fish broth.

Crapaudine ("Frog style"). Flattened and trussed like a frog before broiling. Generally applied to small birds.

Crécy. Generally signifies garnishing, or other use, of carrots. Named after the French city made immortal by the Battle of Crécy. The district is famous for its carrots and other vegetables.

Crème. Cream. Cream Sauce. Custard. Cream Soup—see sub-head in article on SOUPS.

Créole. *Sauce*—Tomato Sauce with chopped garlic, mushrooms, peppers, onions, etc. *Soup*—Okra Soup with onions, tomatoes and peppers.

Crêpe. Pancake.

Crépinette. A flat sausage wrapped in pig's caul.

Croissants. Crescent-shaped rolls. Also used as a confectionery term.

Cromeskies. Croquette mixture cork-shaped, dipped in batter before frying.

Croquette. A mince of any kind of meat, shaped into cones, cutlets, etc.

Croustade. See page 201.

Croûte-au-pot ("Crust in the Pot"). A vegetable soup containing bread crusts.

Croutons (aux). With dice or similarly shaped pieces of thin fried or toasted bread.

Cul. Bottom. Used in the same way as *Fond* (which see).

D

Dariole. A kind of small tart, filled with custard or cream, etc.

Darne. A thick slice (of fish).

Daube (en). Stewed or braised (see sub-head of *Braising* in article on COOKERY).

Déjeuner. Breakfast.

Déjeuner à la fourchette. Luncheon.

Demi-deuil ("Half-Mourning"). A black and white effect—generally white poultry meat, or white sauce, with truffles.

Demi-glace ("Half-Glaze"). Rich thickened gravy.

Demi-tasse ("Half-Cup"). A small cup of black coffee.

Diable ("Devil"). A term often applied to dishes "devilled," *i. e.*, highly peppered and spiced.

Diner. Dinner.

Diplomate (sauce). Béchamel or Cream Sauce, with the addition of crayfish, courtbouillon, etc.

Duchesse. *Sauce*—Tomato and Hollandaise sauces with the addition of diced ham, white wine, etc. *Garnish*—strips of tongue and cockscombs in rich white sauce.

Dugléré. Generally signifies the use of tomatoes. After a famous Paris restaurateur who popularized tomatoes in France.

D'Uxelles. A brown sauce with finely chopped herbs and mushrooms. Also a mixture of mushrooms, parsley, etc., for stuffing. Named after a French nobleman.

E

Écarlate ("Scarlet"). A red sauce or one containing lobster roe, red tongue, etc.

Émincé. Sliced small. Sometimes used to signify "hashed."

Entrecôte. A rib or sirloin steak. Its name, "between ribs," is derived from its original application to such a cut.

Entrée. (1) A term which has come to include a great variety of "made" dishes. (2) The course of such dishes.

Entremet. As employed in America, the term usually signifies the sweet course. French cookery recognizes two distinct classes—*Entremets de Douceur*, sweet dishes, and *Entremets de Légumes*, a course of vegetables (a popular service in France).

Epigramme. An entrée containing two pieces of meat, generally cooked together but prepared in different ways—as, one breaded and one plain.

Escalope. A thin slice.

Espagnole ("Spanish"). See page 228.

Estoufade. A beef stew with claret and spices.

Etuvée. Étouffé. Stewed or "smothered" (a kind of braising). The term is also used to signify "pot roast."

F

Farce. Forcemeat. Stuffing.

Farçi. Stuffed.

Fausse-tortue. Mock turtle.

Fermière ("Farmer's Wife"). In plain, country fashion.

Filet. See FILLET, page 236.

Financière (sauce). *Espagnole* with the addition of madeira, mushrooms, cut truffles, etc.

Fines herbes. See page 236.

Fond. Bottom, as *Fonds d'artichauts*, "Artichoke bottoms."

Fondant. See page 246.

Fondu. Melted.

Frangipane. A flavored custard cream, filled into éclairs, paper cases, etc. Named after a famous Italian pastry cook.

Frappé. Partly frozen.

Friandise. A small dainty dish.

Fricadelles. Cakes of chopped cooked meat, mixed with bread, spices and eggs.

Fricandeau. A piece of meat, generally veal, larded and braised.

Fricassée. A stew with thick (usually white) sauce, generally of chicken, frog's legs or similar items or cold butcher's meat.

Frit. Fried.

Fumé. Smoked.

Fumet. Extract (of game, poultry, fish, etc.).

G

Galantine. See page 259.

Gâteaux assortis. Assorted cakes.

Génoise. Sauce—*Espagnole* with claret and anchovy flavoring. See also GENOA CAKE, page 265.

Glace. Ice. Ice Cream.

Glacé. (1) Frozen. (2) Glazed or browned with meat extract. (3) "Frosted," as of cakes. (4) Candied or crystallized, as of fruits, chestnuts, etc.

Godard. A very rich *Garnish* containing truffles, sweetbreads, mushrooms, etc., and Madeira Sauce. Named after Benjamin Godard, a French composer. Also, though less often, a *Sauce—Espagnole* with carrots, onions, champagne, mushrooms, etc.

Godiveau. A forcemeat prepared with veal and beef suet.

Goulash. See page 274.

Gras (au). Cooked in rich broth.

Gratin (au). Applied to dishes covered with bread crumbs or grated cheese, etc., and browned in the oven.

Grenadin. (1) A small fricandeau. (2) Pomegranate syrup.

Grillé. Grilled.

Gumbo. See pages 291 and 419.

H

Haché. Minced, chopped.

Hachis. Hash.

Haricot (de mouton). A mutton stew with vegetables. See also *Flageolets* (Haricots flageolets), 240, and *Haricots Verts*, 297.

Hollandaise. One of the most important sauces. Its composition includes butter, egg yolks, vinegar, salt and pepper. It is of yellow color and is especially suitable for serving with boiled fish, asparagus, cauliflower, etc.

Horly. See *Orly*, this list.

Hors d'œuvre. Appetizers or small "side" dishes served at the beginning of a meal to stimulate the appetite.

I

Indienne ("Indian style"). Generally signifies the use or accompaniment of curry or similar East Indian seasoning.

J

Jardinière ("Gardener's style"). With a variety of vegetables.

Julienne. See page 317.

Jus (au). With gravy, or juice.

L

Lucullus. Applied to various rich sauces, etc. After the luxurious Roman consul of that name.

Lyonnaise. Containing onions.

M

Macédoine. See page 354.

Maigre. See page 356.

Maître d'hotel ("Hotel Steward's style"). Preparations so designated generally include flavoring with chopped parsley. *Maître d'hotel Sauce* consists of melted butter, chopped parsley and lemon juice and is popular for service with broiled meats and broiled or boiled fish.

Marengo (à la). A term used chiefly in connection with *Chicken Sauté* and signifying its preparation and service with mushrooms, tomatoes, olives, oil and wine—those having been the only supplies that Napoleon's chef could obtain for the emperor's supper after the battle of Marengo.

Mariné. Pickled. See MARINADE, page 366.

Masqué. Covered—as with sauce, forcemeat or jelly.

Matelote ("Sailor's style"). With, or of, a variety of fish.

Mayonnaise. See page 375.

Mazarin. Applied to small almond cakes and pastries. Named after Cardinal Mazarin, prime minister under Louis XIV.

Medaillon. (1) A small round fillet. (2) Similar service of many other items, as foie gras.

Mendiants ("Beggars"). A dessert of dried figs, raisins, almonds and filberts.

Meringue. With or of egg-white froth and sugar.

Mille feuilles ("a thousand leaves"). A cake consisting of layers of puff paste, with jam, etc., between, and variously decorated.

Minestra. A famous Italian thick vegetable soup.

Mode (à la). Literally, "in the fashion." *Beef à la Mode* has come to mean a dish closely allied to Braised Beef or Pot Roast.

Mignon. "Dainty," "Delicate"—as *Filet Mignon*, a small choice fillet.

Mirepoix. See *Braising* in article on COOKERY.

Miroton. Sliced cooked meat warmed over with onions, etc.

Mock Turtle. See page 392.

Mongol ("Mongolian style"). A purée containing peas and tomatoes, garnished with julienne.

Montpellier Butter. A green "butter" made of green herbs, scalded, drained and pounded, and a variety of additional items—garlic, capers, yolks, anchovies, etc.—worked into a paste. It is served cold as sauce for fish, lobster, etc.

Mornay. A cream sauce with cheese.

Mousse ("Froth," "Foam"). Applied to very light dishes, generally prepared with whipped cream or whipped egg whites—as *Mousse de Volaille*, chicken mousse; *Mousse frappé*, a frozen whipped cream dessert.

Mousseline (sauce). Hollandaise sauce with whipped cream. The term *Mousseline de* is also frequently used in the same way as *Mousse de* (see preceding item).

Mulligatawny. See page 395.

N

Napolitaine. A name given to various changes or modifications of *Espagnole*.

Naturel (au). In plain or simple style.

Navarin. A brown mutton or lamb stew with vegetables.

Nesselrode. Containing chestnuts. Named after a Russian statesman and epicure.

Newburg. A term generally applied to lobster cooked with sherry, cream and egg yolks and served in a chafing dish.

Nivernaise. Garnishing of carrots.
Noisette. A small piece of lean meat—generally a chop minus the bone.
Nouveau. Nouvelle. New—of peas, potatoes, etc.

O

Olla Podrida. See page 425.
Orly (à la). Strips of fish or meat, dipped in batter and fried.

P

Pailles ("Straws"). Used to designate thin strips. See *Allumettes*, this list.
Panaché ("Varlegated"). Of mixed colors, as several vegetables, or fruits and cream, etc.
Pané. Bread-crumbed.
Papillotes (en). In paper casings, with paper frills, etc.
Parfait. A light ice cream, as *Parfait Café, Parfait praliné.*
Parmentier (à la). With, or of, potatoes. Named after Baron Augustin Parmentier, who introduced potatoes into France in 1785 and devised numerous methods of preparing them.
Parmesan (au). With Parmesan (grated cheese).
Paupiette. A small meat roll.
Paysanne ("Peasant style"). In plain, country fashion.
Pâté. Pie. Patty. See also page 453.
Pepper Pot. See page 468.
Périgord. With truffles or truffle sauce. Périgord was formerly the name of a section of France famous for its truffles (see page 648).
Périgueux (à la). With truffles or truffle sauce. Périgueux is the chief city of the former province of Périgord (see preceding item).
Persillade. Containing parsley.
Petit. Petits. Small. New—as of peas.
Petite Marmite ("Little Pot"). See page 478.
Petits-fours. Small cakes.
Piquante. Sharp—applied to sauces, etc., containing spices, lemon juice or vinegar, capers, etc.
Piqué. Larded.
Poché. Poached.
Poivrade. Pepper sauce.
Pôt-au-feu ("Pot on the fire"). See reference in PETITE MARMITE, page 478.
Poulette. A white sauce, generally made from chicken broth. *Poulette* signifies "hen chicken" or pullet.
Praliné. Mixed with or containing burnt almonds.
Pré salé ("Salt Meadow"). See page 407 in article on MUTTON.
Printanier ("Spring style"). With spring vegetables (generally cut in small shapes). See PRINTANIER SOUP, page 511.
Provençale (Provence style). Sauces, etc., so styled generally contain garlic or onions and olive oil—in addition to mushrooms, herbs, etc.
Purée. See article on SOUPS. Also applied to mashed vegetables, as *Purée de pommes de terre.*

Q

Quenelle. A forcemeat dumpling of poultry or other meat formed into oval or round shape.

R

Ragoût. Stew.
Ramequin. A cheese cake or tartlet.
Ravigote (sauce). *Velouté* with a purée of tarragon and parsley, shallots, wine vinegar, etc.
Relevé ("Remove"). A title for the course of large joints of meat, the larger poultry birds, etc. The term is a survival of the ancient custom of setting the table with the filled plates of soup before the guests entered the dining room. After they had finished the soup, the latter was "removed" and replaced generally by the joint—at that period either a large fish, poultry or butcher's meat.
Rémoulade. A cold sharp sauce of egg yolks, olive oil, vinegar, gherkins, parsley, mustard, etc.
Risi Pisi. An Italian soup containing rice and green peas.
Risotto (Italian). A dish of rice and cheese. Also a stew containing rice, olive oil, chicken broth, etc.
Rissoles. Croquettes enclosed in pastry.
Robert. A brown mustard sauce, named after a famous French restaurateur.
Rôt or Rôti. Roast. Roasted.
Roulade. Rolled meat.

S

Sabayon. A sweet sauce containing eggs and flavored with wine, as Madeira. Also a kind of egg punch and a dessert containing similar ingredients.
Salé. Salted.
Salmagundi. See page 538.
Salmi. See page 538.
Salpicon. A rich hash of goose liver, game, truffles, mushrooms, etc.
Sauté ("Tossed"). A form of frying. See subhead of *Sauter* in article on COOKERY.
Solferino. A consommé with tomatoes and other vegetables.
Sorbet. SHERBET (see page 563).
Soubise (à la). With onion purée or sauce.
Soufflé ("Puffed"). A very light dish—as *Soufflé Potatoes, Pudding soufflé, Omelette soufflé.*
Souper. Supper.
Suprême. (1) A rich white sauce, generally of chicken. (2) A term freely applied to various delicately prepared dishes, as *Suprême de Volaille*, breast of chicken; *Suprême de Sole*, etc.

T

Tartare (à la). Hot, spiced. *Tartare Sauce* is mayonnaise with chopped parsley, capers, shallots, etc.
Tasse (en). In a cup.
Timbale. A paste crust, or cup made of forcemeat, etc. (filled with various ingredients).
Toulouse. A rich white stew consisting of Allemande Sauce with white wine, truffles, mushrooms, etc. Named after the Comte de Toulouse.
Tournedos. Small fillets of beef.
Tutti Frutti (Italian, "All Fruits"). Ices or ice cream mixed with various candied fruits.

V

Velouté ("Velvety"). See page 666.
Vert-pré ("Green Meadow"). A green garnishing.
Vin blanc (au). In, or with, white wine.
Vinaigrette. With vinegar sauce.
Vol-au-vent ("Flying at the mercy of the wind"). A light puff-paste patty.

WEIGHTS AND MEASURES

General Commercial Weights and Measures

AVOIRDUPOIS—*The system of weights used in the United States for all ordinary trade purposes.*

16 drams	=	1 ounce
16 ounces	=	1 pound (7,000 Troy grs. U. S. Standard)
25 pounds	=	1 quarter*
4 quarters	=	1 hundredweight
20 hundredweight	=	1 ton

*With the exception of the Coal Mines in Penna., the Eastern Fish Markets and U. S. Custom House, the allowance of 28 pounds to the quarter is nearly obsolete.

LIQUID MEASURE

8	drams	=	1 fluid ounce
4	fluid ounces	=	1 gill
4	gills	=	1 pint
2	pints	=	1 quart
4	quarts	=	1 gallon*
31½	gallons	=	1 barrel †
2	barrels	=	1 hogshead §
42	gallons	=	1 tierce **
84	"	=	1 puncheon
126	"	=	1 pipe ††
252	"	=	1 tun

*The standard U. S. gallon corresponds to the English Winchester gallon and contains 231 cubic inches. The British Imperial gallon contains 277+ cubic inches or approximately 1⅕ U. S. gallons. The Beer Gallon contains 282 cubic inches.

†In various sections and for various purposes, a "barrel" = 43⅛ gallons. A barrel of 31½ gallons is also specifically distinguished as a "wine barrel" and one of 36 gallons as a "beer barrel."

§See also under *Miscellaneous Commercial.*

**The term "tierce" is now frequently employed as an indeterminate measure—as a "tierce of lard," hams, etc., without regard to the quantity of its contents.

††An English ale pipe = 117⅛ gallons. A Cognac brandy pipe = 152¾ gallons.

DRY MEASURE

2 pints	=	1 quart
8 quarts (2 gallons)	=	1 peck
4 pecks (8 gallons)	=	1 bushel
11 pecks	=	1 barrel
3 bushels	=	1 sack
8 bushels	=	1 quarter
5 quarters	=	1 load

BARREL WEIGHTS AND MEASURES

(These figures are subject to variations in accordance with commercial usage and state statutes.)

One barrel of	apples	contains	2¾	bushels
" " "	butter	"	224	pounds
" " "	beef	"	200	"
" " "	" (pkld.)	"	306	"
" " "	flour	"	196	"
" " "	hams	"	226	"
" " "	pork	"	190-200	"
" " "	rice	"	600	"

PRODUCE WEIGHTS PER BUSHEL

(Standard weights by the laws of a majority of the states.)

	Per Bushel		*Per Bushel*
Apples, dried	25 to 26 Lbs.	Onions	56 Lbs.
Barley	48 "	Peaches, Dried	33 "
Beans (white)	60 "	Peas (in all states where regulated by statute)	60 "
Bran	20 "	Potatoes	60 "
Buckwheat	42 to 56 "	Rye	56 "
Clover Seed	60 "	Salt*	
Corn in the Ear	70 "	Sweet Potatoes	55 "
Corn, Shelled	56 "	Turnips	55 "
Cornmeal	48 to 50 "	Wheat (in all states where regulated by statute)	60 "
Flax Seed	56 "		
Hemp Seed	44 "		
Malt	34 "		
Millet Seed	50 "		
Oats	32 "		

* SALT.—The weight per bushel as regulated by different states varies from 50 to 80 pounds. Coarse salt is reckoned in New York at 70 pounds; in Pennsylvania at 80 pounds, and in Illinois at 50 pounds per bushel. Fine salt is reckoned in New York at 56 pounds; in Pennsylvania at 62 pounds and in Illinois at 55 pounds per bushel.

MISCELLANEOUS COMMERCIAL

1 quintal* of fish	=	1 hundredweight (100 or 112 lbs.)
1 firkin† of butter	=	56 lbs. (generally)
1 " of ale or beer	=	10⅜ U. S. gallons
1 " of soap	=	64 lbs.
1 tub of butter	=	84 lbs.
1 tierce of salt meat	=	304 to 336 lbs.
1 hogshead of tobacco	=	750 to 1200 lbs.
1 " " molasses	=	150 gallons (generally)

A *keg* is a small barrel or cask, made in various sizes, as 5 gal., 10 gal., etc.

*In the Metric System (which see), a quintal is a mass of 100 kilograms.

†The word "firkin" is frequently employed to designate a small barrel or covered tub without regard to the quantity of its contents.

1 gross	=	12 doz.
1 score	=	20
1 hand (horse measure—taken at the foreshoulder)	=	4 inches
1 palm	=	3 inches
1 span	=	9 inches
1 pace (land measure)*	=	3 feet

*In some sections, a pace = ⅛ rod, or about 3¼ feet.

CUBIC MEASURE

1,728 cubic inches	=	1 cubic foot
27 " feet	=	1 " yard
1 U. S. standard gallon (for wine, beer, etc.)*	=	231 " inches

*See footnote on page 745 under LIQUID MEASURE.

1 standard bushel	=	nearly 1¼ cubic feet (2150.42 cubic ins.)
1 cord of stove wood	=	128 cubic feet
1 ton (shipping)	=	40 " "

To ascertain the number of bushels in a bin of any dimensions, find the cubic feet by multiplying three dimensions of the bin in feet. Deduct one-fifth and the result is the (approximate) number of bushels.

Household Weights and Measures (Approximate)

(A) *"Dry"*

4 saltspoonfuls = 1 teaspoonful

3 medium or 4 very flat teaspoonfuls = 1 heaping tablespoonful

1 heaping tablespoonful of granulated sugar = nearly 1 ounce

2 scant tablespoonfuls of wheat flour = about 1 ounce

1 well-rounded tablespoonful of butter = about 1 ounce

2 ordinary cups, or glasses, of granulated sugar = about 1 pound

2½ ordinary cups, or glasses, of white pulverized sugar = about 1 pound

3 ordinary cups, or glasses, of wheat flour* = about 1 pound

3 ordinary cups, or glasses, of cornmeal = about 1 pound

2 ordinary cups, or glasses, of butter (cold, hard and pressed solid) = about 1 pound

1 pound of granulated sugar = 1 pint

1 pound of wheat flour* = 1½ pint

*This measurement is for flour that has "settled" in the sack. If lightened by handling, 3½ to 4 cups, or nearly 1 quart, are required to make 1 pound.

(B) *Liquid*

4 flat teaspoonfuls = 1 flat tablespoonful = ½ fluid ounce

4 large tablespoonfuls = 1 ordinary wineglass = 2 fluid ounces

4 ordinary wineglasses = 1 ordinary glass or cup (about ½ pint or 2 gills) = 8 fluid ounces

2 ordinary cups or glasses = about 1 pint = 16 fluid ounces

Special Systems of Weights and Measures

APOTHECARIES' WEIGHT

(A) *Fluid*

60 minims (♏) or "drops"	=	1 fluid dram *f*ʒ
8 *f*ʒ	=	1 fluid ounce *f*℥
16 *f*℥	=	1 pint ○
8 ○	=	1 gallon C

(B) *Dry*

20 grains (gr.)	=	1 scruple (℈)
3 scruples	=	1 dram (ʒ)
8 drams	=	1 ounce (℥)
12 ounces	=	1 pound (Troy)

TROY WEIGHT

(Now seldom used except by jewelers, goldsmiths and at the mints.)

24 grains	=	1 pennyweight
20 pennyweights	=	1 ounce (480 grains, U. S. Standard)
12 ounces	=	1 pound (5,760 grains, U. S. Standard).

SQUARE MEASURE

144 sq. inches	=	1 sq. foot
9 sq. feet	=	1 sq. yard
30¼ sq. yards	=	1 sq. rod or perch
40 sq. rods or perches	=	1 rood
4 roods	=	1 acre
640 acres	=	1 sq. mile

LONG MEASURE

3 barleycorns	=	1 inch
12 inches	=	1 foot
3 feet	=	1 yard
5½ yards	=	1 rod or pole
40 rods or poles	=	1 furlong
8 furlongs	=	1 mile (1,760 yards or 5,280 feet)
3 miles	=	1 league
69⅙ miles	=	1 degree of a great circle of the earth's circumference

CLOTH MEASURE

2¼ inches	=	1 nail
4 nails	=	1 quarter
4 quarters	=	1 yard (3 feet)
5 "	=	1 ell
32 ells (40 yards)	=	1 bolt

GOODS BY YARD MEASURE

2¼ inches	=	1 sixteenth
2 sixteenths	=	1 eighth
2 eighths	=	1 quarter
4 quarters	=	1 yard (3 feet)

PAPER MEASURE

24 sheets	=	1 quire
20 quires	=	1 ream
2 reams	=	1 bundle
5 bundles	=	1 bale

LAND AND SURVEYORS' MEASURE

7.92 inches	= 1 link
25 links	= 1 rod
4 rods	= 1 chain
80 chains	= 1 mile
10 sq. chains	= 160 sq. rods or 1 acre* (4,840 sq. yards, U. S. standard)
640 acres	= 1 sq. mile or 1 gov't section
36 sq. miles	= 1 township

*An acre, if square, is about 209 feet on all sides.

MARINERS' MEASURE

6 feet	= 1 fathom
100 fathoms	= 1 cable's length*
1 geographical or nautical mile or admiralty knot	= 2,029 yards (1.151 statute miles)

*Among merchantmen, a "Cable's length" varies from 100 to 150 fathoms (200 to 300 yards). *Chain cables* are generally 120 fathoms in length.

Metric System

The Metric System, adopted by the French Government, November 2, 1801, after a most elaborate investigation by the greatest scientists of France, is based on the decimal calculation and is intended to be the standard of the world.

It has been made the only legal system of all European countries except Great Britain and Russia, and in those it is permissive. It has also been adopted by Mexico and a majority of the South American States, and made obligatory in British India. In 1866 it was legalized in the United States and its use is now obligatory on United States officials for all official medical and pharmacal purposes. It thus appears that the system has received the approbation of all civilized nations.

Some of its advantages are as follows:

UNCHANGEABLE STANDARDS. The base of the system, the *Metre*, is unalterable, being a certain length shown on a platinum rod, preserved in the archives of the International Metric Commission at Paris, equal to one ten-millionth part of the earth's quadrant, passing through Paris. As thousands of copies of the original bar have been made, and are almost everywhere in use, we have for the entire commercial world a unit of length, which is also the fundamental unit, which is as unalterable as the meridian itself. On the other hand, the barley-corn, foot, grain, pennyweight, etc., having originally been taken from common things of variable size, utterly lack correspondence—more than one hundred foot-measures of different lengths have been in use at various times in Europe, and the total of different units of weights and measures employed has exceeded five thousand!

SIMPLICITY. The system is comprised in twelve words, each in itself expressive of value—as against about fifty in our present system.

UNIFORMITY. It renders mutually intelligible our own and foreign books containing statements of weights and measures, facilitating commerce and trade by avoiding delays and difficulties in reducing values from one system to another. The bulk of our imports and exports is with nations using in whole or part the metric.

RECIPROCAL USE. The relations existing between the measures of length, weight and capacity, are such that, given the weight of a body, its volume can easily be determined—and reciprocally—a relation not existing in our present system.

UNITS

LENGTH. The unit is the *Metre*, already described.

WEIGHT. The unit is the *Gram*, which represents a cube of pure water at greatest density, the edge being one hundredth of a metre. 1,000 grams make a *Kilogram*. For commercial purposes, the gram is more clearly defined as 1/1000 part of a Standard Kilogram—a block of platinum-iridium—as preserved in the archives of the International Metric Commission.

CAPACITY. The unit is the *Litre*, which represents the space occupied by 1 kilogram of pure water at the greatest density, forming a cube of which the edge is 1/10 of a metre.

SURFACE. The unit is the *Are*, which equals 100 square metres.

The principal denominations in every-day use in the countries where the metric system is universally employed are:

LENGTH: *Metre* (m) equivalent to about 3 feet 3 $\frac{3}{8}$ inches.

Centimetre (cm), one hundredth part of a metre; equivalent to about $\frac{2}{5}$ inch.

WEIGHT. *Kilogram* (Kg) or Kilo, equivalent to about 2 $\frac{1}{5}$ lbs. avoirdupois.

One-half Kilo, equivalent to about 1 $\frac{1}{10}$ lbs. avoirdupois.

CAPACITY: *Litre* (l) equivalent to about $\frac{9}{10}$ of a quart, dry measure, and a trifle more than a quart, liquid measure.

MEASURE: *Hectare* (ha) or 100 ares, equivalent to a little less than 2½ acres:

Are (a) or 100 square metres, equivalent to about 119½ sq. yards;

Square metre (m^2), equivalent to a little more than 1 $\frac{1}{5}$ sq. yard.

The tables on the page following constitute the schedule of exact comparative weights, etc., legalized in this country by Act of Congress.

Metric System—*Continued.*

MEASURES OF LENGTH

Metric denominations and values		Equivalents in denominations in use	
Myriameter	10,000 meters.	6.2137	miles.
Kilometer	1,000 meters.	0.62137	miles, or 3,280 feet and 10 inches.
Hectometer	100 meters.	328	feet and 1 inch.
Dekameter	10 meters.	393.7	inches.
Meter	1 meter.	39.37	inches.
Decimeter	$\frac{1}{10}$ of a meter.	3.937	inches.
Centimeter	$\frac{1}{100}$ of a meter.	0.3937	inch.
Millimeter	$\frac{1}{1000}$ of a meter.	0.0394	inch.

WEIGHTS

Metric denominations and values			Equivalents in denominations in use	
Names	Number of grams	Weight of what quantity of water at maximum density	Avoirdupois weight	
Millier or Tonneau	1,000,000	1 cubic meter	2204.6	pounds.
Quintal	100,000	1 hectoliter	220.46	pounds.
Myriagram	10,000	10 liters	22.046	pounds.
Kilogram or kilo	1,000	1 liter	2.2046	pounds.
Hectogram	100	1 deciliter	3.5274	ounces.
Dekagram	10	10 cubic centimeters	0.3527	ounces.
Gram	1	1 cubic centimeter	15.432	grains.
Decigram	$\frac{1}{10}$	$\frac{1}{10}$ of a cubic centimeter	1.5432	grains.
Centigram	$\frac{1}{100}$	10 cubic millimeters	0.1543	grain.
Milligram	$\frac{1}{1000}$	1 cubic millimeter	0.0154	grain.

MEASURES OF CAPACITY

Metric denominations and values			Equivalents in denominations in use	
Names	Number of	Cubic Measure	Dry Measure	Liquor or Wine Measure
Kiloliter or Stere.	1,000	1 cubic meter	1.308 cub. yards	264.17 gallons.
Hectoliter	100	$\frac{1}{10}$ of a cubic meter	2 bushels and 3.35 pecks.	26.417 gallons.
Dekaliter	10	10 cubic decimeters	9.08 quarts	2.6417 gallons.
Liter	1	1 cubic centimeter	0.908 quart	1.0567 quarts.
Deciliter	$\frac{1}{10}$	$\frac{1}{10}$ of a cubic decimeter	6.1022 cub. inches	0.845 gill.
Centiliter	$\frac{1}{100}$	10 cubic centimeters	0.6102 cub. inch	0.338 fluid ounce.
Milliliter	$\frac{1}{1000}$	1 cubic centimeter	0.061 cub. inch	0.27 fluid dram.

MEASURES OF SURFACE.

Metric denominations and values		Equivalents in denominations in use
Hectare	10,000 square meters	2.471 acres.
Are	100 square meters.	119.6 square yards.
Centare	1 square meter.	1,550 square inches.

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